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Water resources data for the 1978 water year for Maryland and Delaware consist of records of stage, discharge, and water quality of streams; stage and contents of lakes and reservoirs; and water levels and water quality of ground-water wells. This volume contains records for water discharge at 102 gaging stations; stage and contents at 1 reservoir; water quality at 52 gaging stations and 72 wells; and water levels at 28 observation wells. Also included are data for 17 crest-stage, 86 low-flow, and 4 tidal crest-stage partial-record stations. Additional water data were collected at various sites not involved in the systematic data-collection program and are published as miscellaneous measurements. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State, local, and Federal agencies in Maryland and Delaware.

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PREFACE

This report was prepared by personnel of the Maryland, Delaware, District of Columbia district of the Water Resources Division of the U.S. Geological Survey under the supervision of W. F. White, District Chief, and J. E. Biesecker, Regional Hydrologist, Northeastern Region. It was done in cooperation with the States of Maryland and Delaware and with other agencies.

This report is one of a series issued by state. General direction for the series is by J. S. Cragwall, Jr., Chief Hydrologist, U.S. Geological Survey, and G. W. Whetstone, Assistant Chief Hydrologist for Scientific Publications and Data Management.

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CALENDAR FOR WATER YEAR 1978

1977

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[*Letter after station name designates type of data: (d) discharge, (c) chemical, (b) biological, (m) microbiological, (t) water temperature, (s) sediment, (e) elevation and contents*]

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WATER RESOURCES DATA FOR MARYLAND AND DELAWARE, 1978

INTRODUCTION

Water resources data for the 1978 water year for Maryland and Delaware consist of records of stage, discharge, and water quality of streams; stage and contents of lakes and reservoirs; and water levels and water quality of ground-water wells. This volume contains records for water discharge at 102 gaging stations; stage and contents at 1 reservoir; water quality at 52 gaging stations and 72 wells; and water levels at 28 observation wells. Also included are data for 17 crest-stage, 86 low-flow, and 4 tidal crest-stage partial-record stations. Locations of these sites are shown on figures 3 and 4. Additional water data were collected at various sites not involved in the systematic data-collection program and are published as miscellaneous measurements. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State, local, and Federal agencies in Maryland and Delaware.

Records of discharge and stage of streams, and contents or stage of lakes and reservoirs were first published in a series of U.S. Geological Survey water-supply papers entitled, "Surface Water Supply of the United States." Through September 30, 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of water-supply papers entitled "Ground Water Levels in the United States." Water-supply papers may be consulted in the libraries of the principal cities in the United States or may be purchased from the Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street, Arlington, VA 22202.

For water years 1961 through 1974, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1974 were similarly released either in separate reports or in conjunction with streamflow records.

Beginning with the 1975 water year, water data for streamflow, water quality, and ground water are published in official Survey reports on a State-boundary basis. These official Survey reports carry an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this report is identified as "U.S. Geological Survey Water-Data Report MD-DE-78-1." For archiving and general distribution, the reports for water years 1971-74 are also identified as water-data reports. These water-data reports are for sale, in paper copy or in microfiche, by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the district chief at the address given on the back of the title page or by telephone (301) 828-1535.

COOPERATION

The U.S. Geological Survey and organizations of the State of Maryland have had cooperative agreements for the systematic collection of streamflow records from 1896 to 1909 and since 1924, for ground-water levels since 1943, and for water-quality records since 1958. Similar agreements between the Survey and organizations of the State of Delaware began in 1943 for streamflow records and in 1949 for water-quality records. Organizations that assisted in collecting data through cooperative agreements with the Survey are:

Maryland Geological Survey, K. N. Weaver, director.

Delaware Geological Survey, R. R. Jordan, State geologist.

Maryland State Highway Administration, M. S. Caltrider, administrator.

Maryland Department of Health and Mental Hygiene, Environmental Health Administration, D. H. Noren, director.

District of Columbia Department of Environmental Services, H. L. Tucker, director.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army, for 22 gaging stations; by the Water Quality Office, Environmental Protection Agency, for 3 gaging stations; and by the National Park Service, U.S. Department of the Interior, for 1 station.

The following organizations aided in collecting records:

Delaware: State Department of Natural Resources and Environmental Control, and New Castle County.

Maryland: Maryland Water Resources Administration, Washington Suburban Sanitary Commission, Upper Potomac River Commission, Baltimore and Howard Counties, Potomac Electric Power Co., and Virginia Electric Power Co.

Organizations that supplied data are acknowledged in station descriptions.

ACKNOWLEDGMENT

Maryland and Delaware district personnel who contributed significantly to the collection and preparation of the data in this report were: R. W. James, Jr., Chief, Hydrologic Records and Information Section, assisted by Philip Pfannebecker, B. M. Helinsky, M. N. Lys, D. F. Gillen, L. B. Maclin, and M. E. Walters.

HYDROLOGIC CONDITIONS

Streamflow was in the normal range throughout the bistate area as the 1978 water year began. Streamflow generally increased into the above normal or excessive range (upper 25 percent of record) for most of the remainder of the year. Heavy rains on July 1st and 2nd caused local flooding in Western Maryland. Record-high peaks occurred at several gaging stations along the North Branch Potomac River in Garrett County.

Streamflow at the index station, Potomac River at Paw Paw, W. Va., averaged 4,540 ft^3/s (129 m^3/s), 154 percent of normal, reference period, 1941-70. A record monthly high flow was recorded in May. The average flow at the index station, Seneca Creek near Dawsonville, Md., was 152 ft^3/s (4.31 m^3/s), 177 percent of normal. A record monthly high flow was recorded in January. At the index station, Choptank River near Greensboro, Md., streamflow averaged 195 ft^3/s (5.52 m^3/s). Record monthly high flows were recorded in January and March as the result of heavy rains and snowmelt.

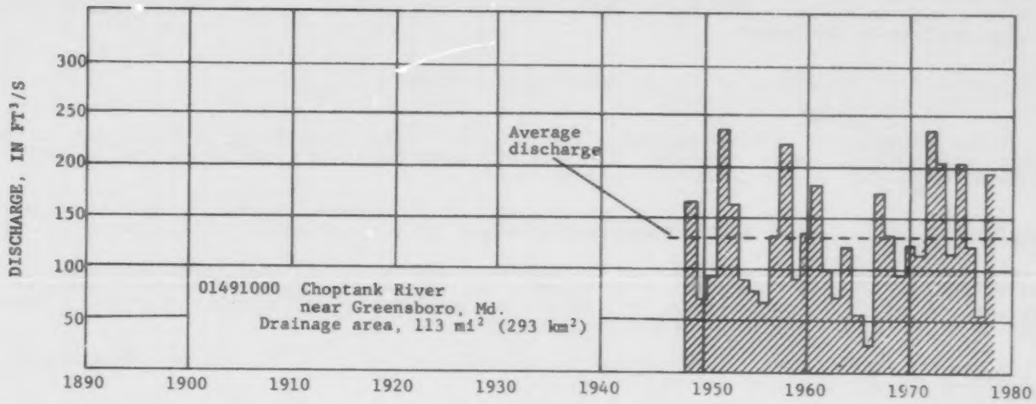
Average fresh-water inflow to the Chesapeake Bay was estimated at 114,000 ft^3/s (3,230 m^3/s) which is 150 percent of the long-term average, reference period 1952-78. Record-high inflows of 232,000 ft^3/s (6,570 m^3/s) and 183,000 ft^3/s (5,180 m^3/s) occurred in March and May respectively. Above-average inflows occurred in January, April, July, and August.

Monthly flows at the index station, Potomac River near Washington, D.C., adjusted for diversions, were in the excessive range for November through January, March, May, July, and August. The yearly flow averaged 16,840 ft^3/s (477 m^3/s), 160 percent of normal.

Annual mean discharge is compared with the long-term average discharge for two representative gaging stations in figure 1. Data for the station, Potomac River at Point of Rocks, Md., reflects runoff conditions in the Potomac River basin, excluding the Coastal Plain. Data for the station, Choptank River at Greensboro, Md., reflects runoff from a 113 mi^2 (293 km^2) area, of which 21.6 mi^2 (34.8 km^2) is in Delaware in the central part of the Delmarva peninsula.

The combined storage in the three major water-supply reservoirs in the Baltimore City Municipal System was 106 percent of average on September 30, 1978, or about 77,600,000,000 gal (294 hm^3), an increase of 24 percent from the end of last year and 91 percent of the usable capacity of 85,340,000,000 gal (323 hm^3).

At the end of the water year, water-level measurements indicated that the water table was generally higher throughout the bistate than it had been the year before. In the Appalachian region, the levels rose as much as 2.5 ft (0.762 m); in the Piedmont, it ranged 2 ft (0.61 m) to 4 ft (1.2 m) higher with some as high as 9 ft (2.7 m); levels on the Western Shore ranged 1 ft (0.30 m) to 4 ft (1.2 m) higher; and on the Eastern Shore ranged 0.1 ft (0.03 m) to 4.5 ft (1.4 m) higher. Record or near-record high levels were established at three wells in the Appalachian region and one well on the Western Shore. Although the water level was higher in most water-table wells, record or near-record lows were established at two wells on the Western Shore and one well in the Piedmont.



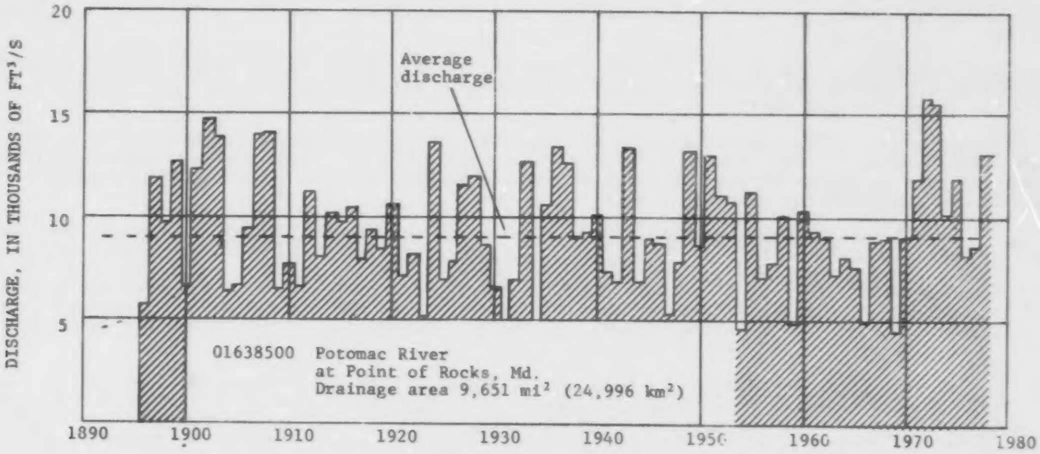


Figure 1.-- Annual mean discharge at two gaging stations in Maryland.

NOTICE

During water year 1978, revisions were made in the terminology used to define 143 of the water-quality parameter codes that have been used by the Geological Survey in its publication of water-quality data and in its WATSTORE data system. These revisions were made to achieve consistency in terminology and to conform to a joint USGS-EPA agreement on terminology. They do not represent a change in the way the codes have been used in the past or in the association of specific code numbers with identified analytical procedures.

Use of the new terminology began with data for the 1978 water year, and therefore, it first appears in this publication. Definitions on which the terminology is based are included in the "Definitions" section of this report, and a table showing both old and new terminology is attached as an appendix to the report.

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also the table for converting inch-pound units to International System of Units (SI) on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Adenosine triphosphate (ATP) is the primary energy donor in cellular life process. Its central role in living cells makes it an excellent indicator of the presence of living material in water. A measure of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter of the original water sample.

Algae are mostly aquatic single-celled, colonial, or multi-celled plants, containing chlorophyll and lacking roots, stems, and leaves.

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as the organisms which produce colonies within 24 hours when incubated at 35°C ± 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms which produce blue colonies within 24 hours when incubated at 44.5°C ± 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C ± 1.0°C on M-enterrococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the unconsolidated material of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by micro-organisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash, and sediment in the sample. Dry mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and ash mass, and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Cfs-day is the volume of water represented by flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons or 2,447 cubic meters.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water, and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common pigments in plants.

Color unit is produced by one milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of salt water.

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Cubic foot per second (FT^3/S, ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment) that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved constitutes that material in a representative water sample which passes through a 0.45 μm membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Diversity index is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = -\sum_{i=1}^{s} \frac{n_i}{n} \log_2 \frac{n_i}{n}$$

Where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Diversity index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the river above the specified point. Figures of drainage area given herein include all closed basins, or noncontribution areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ($CaCO_3$).

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an 8-digit number.

Land-surface datum is a datum plane that is approximately at the land surface at the well.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Methylene blue active substance (MBAS) is a measure of apparent detergents. This determination depends on the formation of a blue color when methylene blue dye reacts with synthetic detergent compounds.

Micrograms per gram (μg/g) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (gram) of sediment.

Micrograms per liter (UG/L, μg/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L, and is based on the mass of sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meters (m^2), acres, or hectares. Periphyton benthic organisms and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliters (mL) or liters (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of suspended sediment or bed material determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology.

The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay..........	0.00024 - 0.004	Sedimentation.
Silt..........	.004 - .062	Sedimentation.
Sand..........	.062 - 2.0	Sedimentation or sieve.
Gravel........	2.0 - 64.0	Sieve.

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, mass, or volume.

Pesticides are chemical compounds used to control undesirable plants and animals. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants respectively, are the two categories reported.

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells/mL of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algal mats or floating "moss" in lakes. Their concentrations are expressed as number of cells/mL of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plants (carbon method).

Milligrams of carbon per area or volume per unit time [mg C/(m^2·time) for periphyton and macrophytes and mg C/(m^3·time)] for phytoplankton are units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon 14). The carbon-14 method is of greater sensitivity than the oxygen light-and-dark bottle method, and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [mg O_2/(m^2·time) for periphyton and macrophytes and mg O_2/(m^3·time)] for phytoplankton are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved oxygen concentration. The oxygen light-and-dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of only readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion are likely to produce different analytical results.

Runoff in inches (IN, in) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or volume, that passes a section in a given time. It is computed by multiplying discharge in ft^3/s times mg/L times 0.0027.

Suspended-sediment load is quantity of suspended sediment passing a section in a specified period.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry weight or volume, that passes a section during a given time.

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in micromhos per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water per unit of time flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lived.

Natural substrates refers to any naturally occurring emersed or submersed solid surface, such as a rock or tree, upon which an organism lived.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multi-plate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.

Surface area of a lake is that area outlined on the latest U.S.G.S. topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimetered. All areas shown are those for the stage when the planimetered map was made.

Surficial bed material is that part (0.1 to 0.2 ft) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of the total concentration in a water-sediment mixture. The water-sediment mixture is associated with (or sorbed on) that material retained on a 0.45 micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45 µm membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 µm membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, Hexagenia limbata, is the following:

Kingdom	Animal
Phylum	Arthropoda
Class	Insecta
Order	Ephemeroptera
Family	Ephemeridae
Genus	Hexageria
Species	Hexagenia limbata

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration in milligrams per liter by 0.00136.

Tons per day is the quantity of substance in solution or suspension that passes a stream section during a 24-hour day.

Total in bottom material is the total amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material."

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determines all of the constituent in the sample.)

Total load (tons) is the total quantity of any individual constituent, as measured by dry mass or volume, that is dissolved in a specific amount of water (discharge) during a given time. It is computed by multiplying the total discharge in ft^3/s, times the mg/L of the constituent, times the factor 0.0027, times the number of days.

Total, recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

WDR is used as an abbreviation for "Water Data Report" in the REVISED RECORDS paragraph to refer to State annual basic-data reports.

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WSP is used as an abbreviation for "Water-Supply Paper" in references to previously published reports.

DOWNSTREAM ORDER AND STATION NUMBER

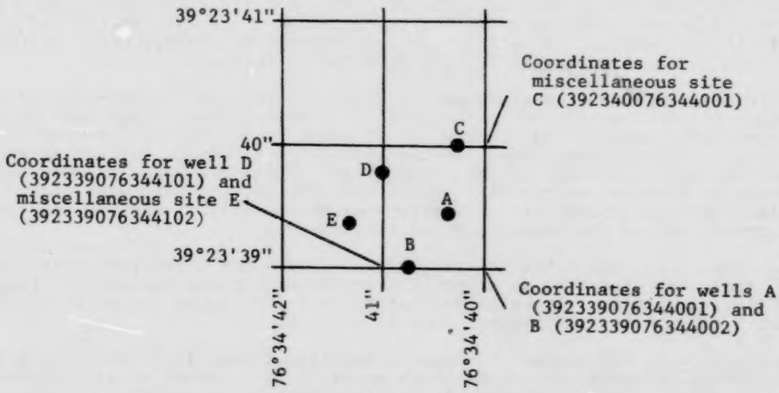
Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a main-stream station are listed before that station. A station on a tributary that enters between two main-stream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indention in a list of stations in the front of the report. Each indention represents one rank. This downstream order and system of indention show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station such as 01477800, which appears just to the left of the station name, includes the 2-digit part number "01" plus the 6-digit downstream order number "477800."

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The 8-digit downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

The well and miscellaneous site numbering system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits (assigned sequentially) identify the wells or other sites within a 1-second grid. See figure 2 below.



Coordinates for miscellaneous site C (392340076344001)

Coordinates for well D (392339076344101) and miscellaneous site E (392339076344102)

Coordinates for wells A (392339076344001) and B (392339076344002)

Figure 2. System for numbering wells and miscellaneous sites (latitude and longitude)

A second well-numbering system used in Maryland utilizes the county prefix and a 5-minute grid. The first 2 letters of the identification number are the county prefix; for example, for Charles County the prefix is CH. Each county is divided by 5-minute quadrangles of latitude and longitude. Each quadrangle is identified by 2 uppercase letters; the first designates north to south and the second, west to east. The wells are numbered serially within each quadrangle. A similar system used in Delaware divides the state, rather than the counties, by 5-minute quadrangles of latitude and longitude which are designated as explained above. Each 5-minute quadrangle is further subdivided by 1-minute quadrangles. Each of the 1-minute quadrangles from north to south is designated by a number from 1 to 5, and west to east by a number from 1 to 5. Thus ID 55-1 is the first well inventoried in the southeast 1-minute quad of the ID 5-minute quadrangle of Delaware.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

National stream-quality accounting network (NASQAN) is a data-collection network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated into the network design. Areal configuration of the network is based on river-basin accounting units (identified by 8-digit hydrologic-unit numbers) designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in streamflow and stream quality.

Pesticide program is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams where potential contamination could result from the application of the commonly used insecticides and herbicides. Operation of the network is a Federal interagency activity.

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Tritium network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from either direct readings on a nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at selected time intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey. These methods are described in standard textbooks, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables; then the monthly and yearly mean discharge are computed from the daily figures. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by hydrologists and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

At some stream-gaging stations the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

At some northern stream-gaging stations the stage-discharge relation is affected by ice in the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of gage-height record and occasional winter discharge measurements. Consideration is given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge for other stations in the same or nearby basins.

For a lake or reservoir station, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly change in contents is computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some gaging stations, there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records for other stations in the same or nearby basins. Likewise, daily contents may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams or canals, a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs, a monthly summary table of stage and contents or a table showing the daily contents is given. Tables of daily mean gage heights are included for some streamflow stations and for some reservoir stations. Records are published for the water year, which begins on October 1 and ends on September 30.

The description of the gaging station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge, and extremes of discharge or contents. The location of the gaging station and the drainage area are obtained from most accurate maps available. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD."

Previously published streamflow records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISED RECORDS" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1965 stands for the water year October 1, 1964, to September 30, 1965. If no daily, monthly, or annual figures of discharge are affected by the revision, the fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

The type of gage currently in use, the datum of the present gage referred to National Geodetic Vertical Datum; and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." National Geodetic Vertical Datum is explained in "DEFINITION OF TERMS" on page 6.

Information pertaining to the accuracy of the discharge records and to conditions which affect the natural flow of the gaging station is given under "REMARKS." For reservoir stations, information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir is given under "REMARKS."

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. In addition, the median of yearly mean discharges is given for stream-gaging stations having 10 or more complete years of record if the median differs from the average by more than 10 percent. Under "EXTREMES" are given first, the extremes for the period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations, peak discharges are listed with EXTREMES FOR THE CURRENT YEAR; if they are, all independent peaks, including the maximum for the year, above the selected base with the time of occurrence and corresponding gage heights are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN"), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion, if the drainage area includes large noncontributing areas, or if the average annual rainfall over the drainage basin is usually less than 20 inches. If the yearly summary below the monthly summary, the figures shown are the appropriate daily discharges for the calendar and water years.

Footnotes to the table of daily discharges are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-discharge relation, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

For most gaging stations on lakes and reservoirs, the data presented comprise a description of the station and a monthly summary table of stage and contents. For some reservoirs, a table showing daily contents or stage is given. A skeleton table of capacity at given stages is published for all reservoirs for which records are published on a daily basis but is not published for reservoirs for which only monthly data are given.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. Occasionally, a series of discharge measurements are made within a short time period to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements are also given in special tables following the tables of partial-record stations.

Accuracy of field data and computed results

The accuracy of streamflow data depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of observations of stage, measurements of discharge, and interpretations of records.

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good," within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 ft^3/s; to tenths between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures above 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff in inches are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other data available

Information of a more detailed nature than that published for most of the gaging stations, such as discharge measurements, gage-height records, and rating tables is on file in the district office. Also most gaging-station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the district office.

Records of discharge collected by agencies other than the Geological Survey

The National Water Data Exchange, Water Resources Division, U.S. Geological Survey, National Center, Reston, VA 22902, maintains an index of records of discharge collected by other agencies but not published by the Geological Survey. Information on records available at specific sites can be obtained upon request.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and examination of data

Surface-water samples for analyses usually are collected at or near gaging stations. The quality-of-water records are given immediately following the discharge records at these stations.

The descriptive heading for water-quality records gives the period of record for all water-quality data; the period of daily record for parameters that are measured on a daily basis (specific conductance, pH, dissolved oxygen, water temperature, sediment discharge, etc.); extremes for the period of daily record; extremes for the current year; and general remarks.

For ground-water records, no descriptive statements are given; however, the well number, depth of well, date of sampling and/or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water analysis

Most methods for collecting and analyzing water samples are described in the U.S. Geological Survey Techniques of Water-Resources Investigations listed on a following page.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the district office.

Water temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diel temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided day method. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of the quantities of suspended sediment, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included.

EXPLANATION OF GROUND-WATER LEVEL RECORDS

Collection of the data

Only ground-water level data from a basic network of observation wells are published herein. This basic network contains observation wells so located that the most significant data are obtained from the fewest wells in the most important aquifers.

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is provided for local needs. See figure 2.

Measurements are made in many types of wells under varying conditions of access and at different temperatures; hence, neither the method of measurement nor the equipment can be standardized. At each observation well, however, the equipment and techniques used are those that will insure that measurements at each well are consistent.

Water-level measurements in this report are given in feet with reference to either National Geodetic Vertical Datum of 1929 (NGVD) or land-surface datum (lsd). National Geodetic Vertical Datum of 1929 (NGVD) is the datum plane on which the national network of precise levels is based; land-surface datum is a datum plane that is approximately at land surface at each well. If known, the altitude of the land-surface datum above NGVD is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and at the end of each month (EOM).

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error in determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given only to a tenth of a foot or a larger unit.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Thirty-four manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 1200 South Eads Street, Arlington, VA 22202 (authorized agent of the Superintendent of Documents, Government Printing Office. Prices are effective October 1978 but are subject to change.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS--Continued

NOTE: When ordering any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations".

1-D1. *Water temperature-influential factors, field measurement, and data presentation*, by H. H. Stevens Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages. $1.60.

1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W.Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages. $0.85

2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages. $1.90.

2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages. $1.75.

3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages. $1.00.

3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages. $0.35.

3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages. $0.40.

3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages. $1.00.

3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages. $0.35.

3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6, 1968, 13 pages. $1.00.

3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages. $1.40.

3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages. $1.25.

3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages. $1.20.

3-A12. *Fluorometric procedures for dye tracing*, by J. F. Wilson Jr.: USGS--TWRI Book 3, Chapter A12. 1968. 31 pages. $0.35. Not currently available.

3-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages. $0.70.

3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2 1976. 172 pages. $2.50.

3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages. $2.50.

3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2, 1970. 59 pages. $2.50.

3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages. $2.10.

4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4 Chapter A1. 1968. 39 pages. $1.60.

4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages. $1.20

4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972, 18 pages. $0.65.

4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages. $0.75.

4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages. $0.65.

4-D1. *Computation of rate and volume of stream depletion by wells*, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages. $1.10.

5-A1. *Methods for collection and analysis of water samples for dissolved minerals and gases*, by Eugene Brown, M. W. Skougstad, and M. J. Fishman: USGS--TWRI Book 5, Chapter A1. 1970. 160 pages. $2.40.

5-A2. *Determination of minor elments in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages. $0.80.

5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages. $0.90.

5-A4.* *Methods for collection and analysis of aquatic biological and microbiological samples*, edited by P.E. Greeson, T.A. Ehlke, G.A. Irwin. B.W. Lium, and K.V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages. $20.00.

5-A5.* *Methods for determination of radioactive substances in water and fluvial sediments*, by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages. $16.00.

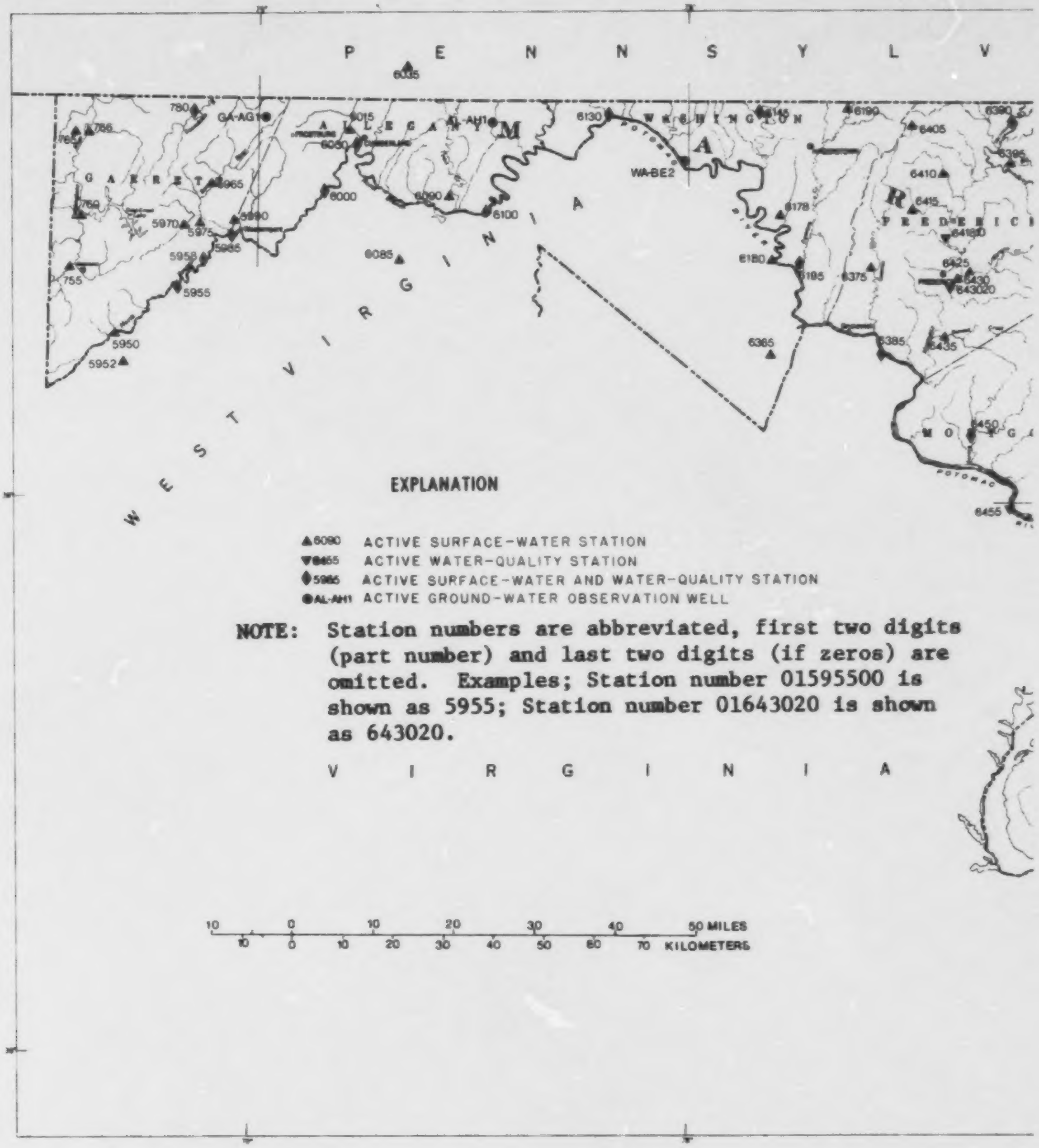
5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages. $2.10.

7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages. $2.30.

8-A1. *Methods of measuring water levels in deep wells*, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages. $0.70.

8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages. $1.10.

*These publications are available ONLY from Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. They are in looseleaf format and are subscription items. Additional supplements will be issued to subscribers at no extra cost. Checks should be made payable to Superintendent of Documents. Requester should emphasize to Superintendent of Documents that this is a subscription item.



NOTE: Station numbers are abbreviated, first two digits (part number) and last two digits (if zeros) are omitted. Examples; Station number 01595500 is shown as 5955; Station number 01643020 is shown as 643020.

Figure 3. Location of surface-water and water-quality stations and ground-water observation wells in Maryland and Delaware.

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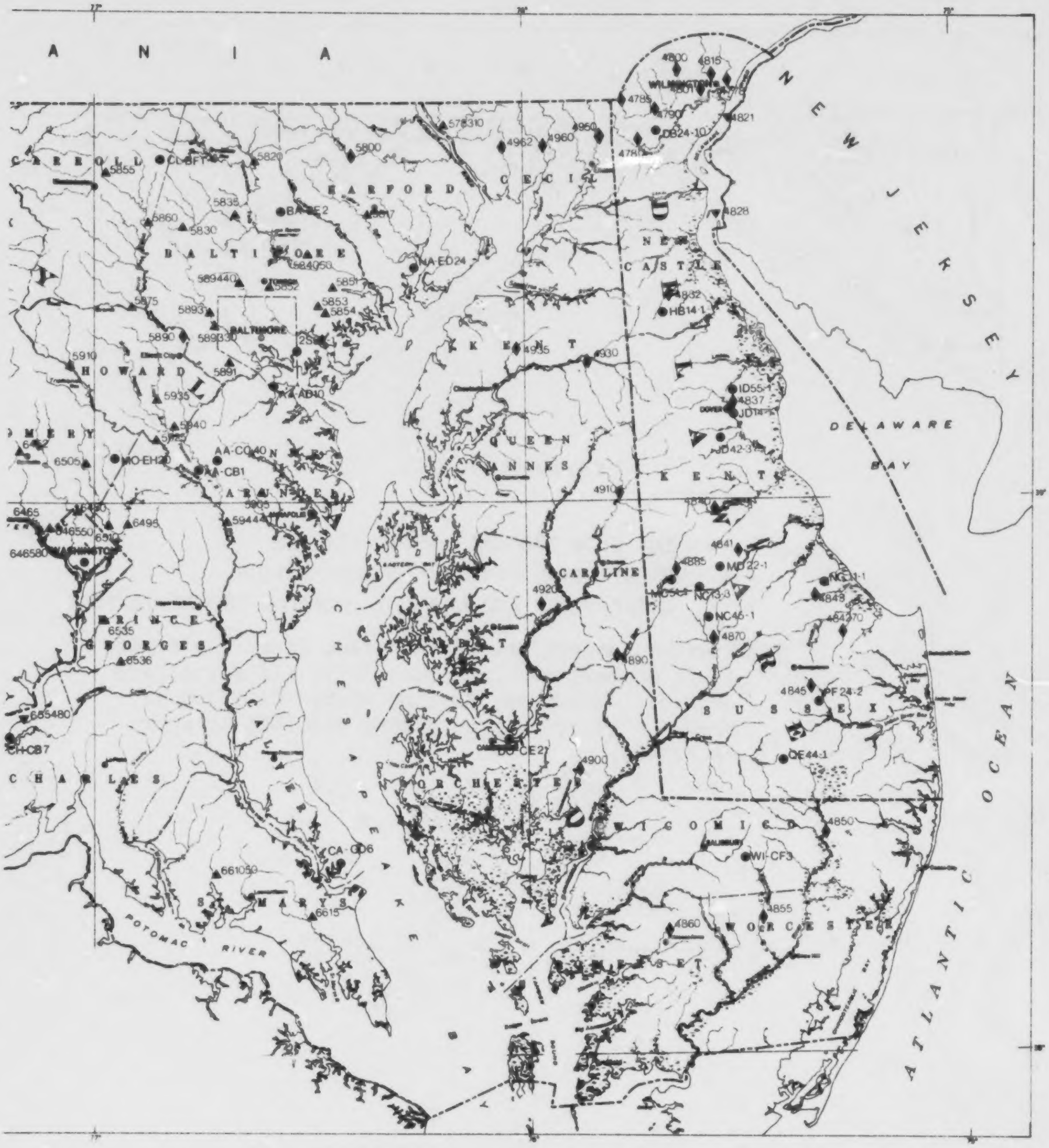
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ST. MARYS
POTOMAC RIVER
CHESAPEAKE BAY
KENT
QUEEN ANNES
CAROLINE
TALBOT
DORCHESTER
WICOMICO
SOMERSET
WORCESTER
NEW CASTLE
KENT
SUSSEX
WILMINGTON
NEW JERSEY
DELAWARE BAY
ATLANTIC OCEAN
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4790
4781
4821
CB24-10
4828
4832
HB14-1
ID55-1
4837
JD14
JD42-3
4841
MD22-1
4885
NC45-1
4870
4846
PF24-2
OE44-1
4850
WI-CF3
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AA-AB10
AA-CC40
AA-CB1
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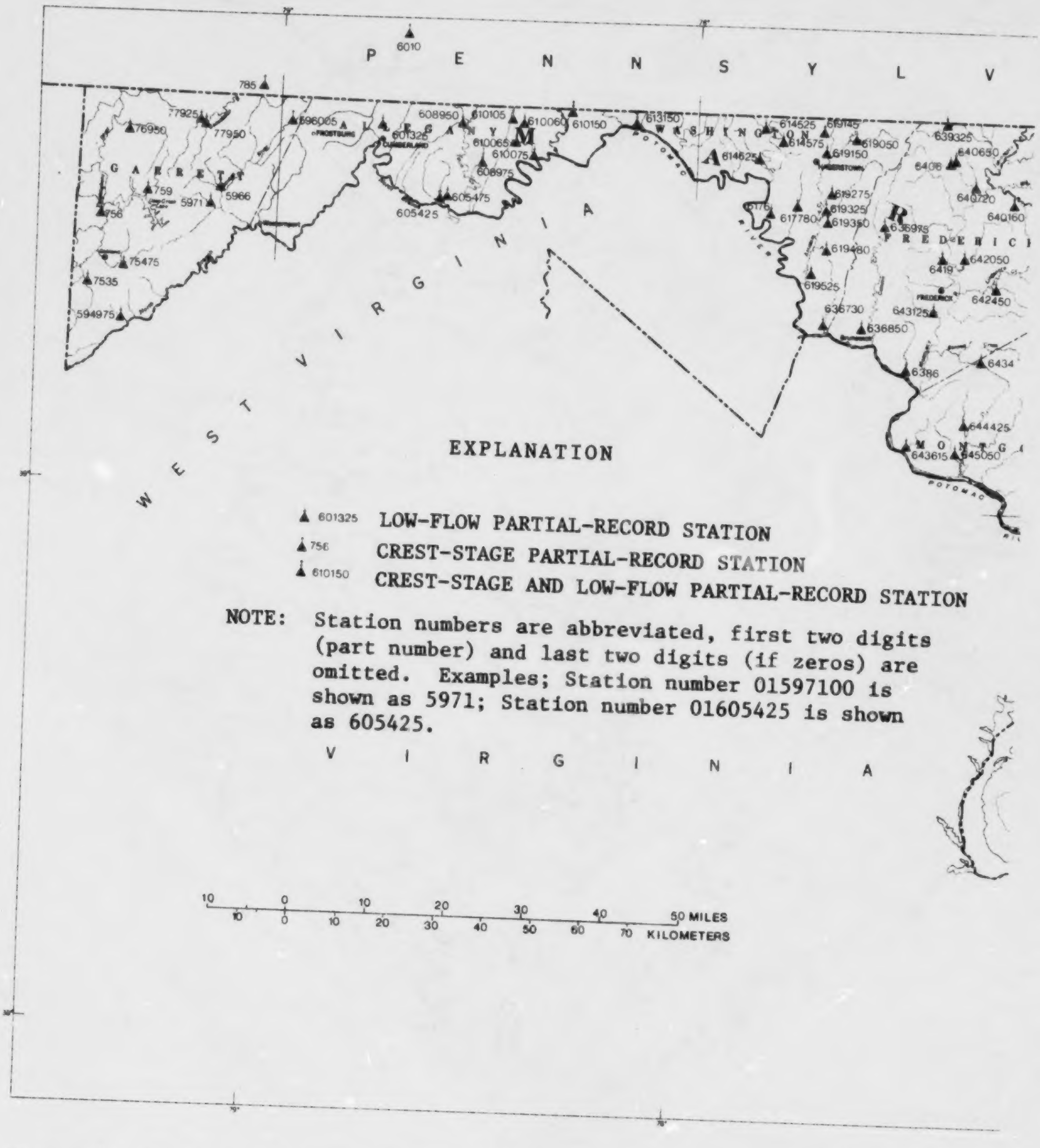


EXPLANATION

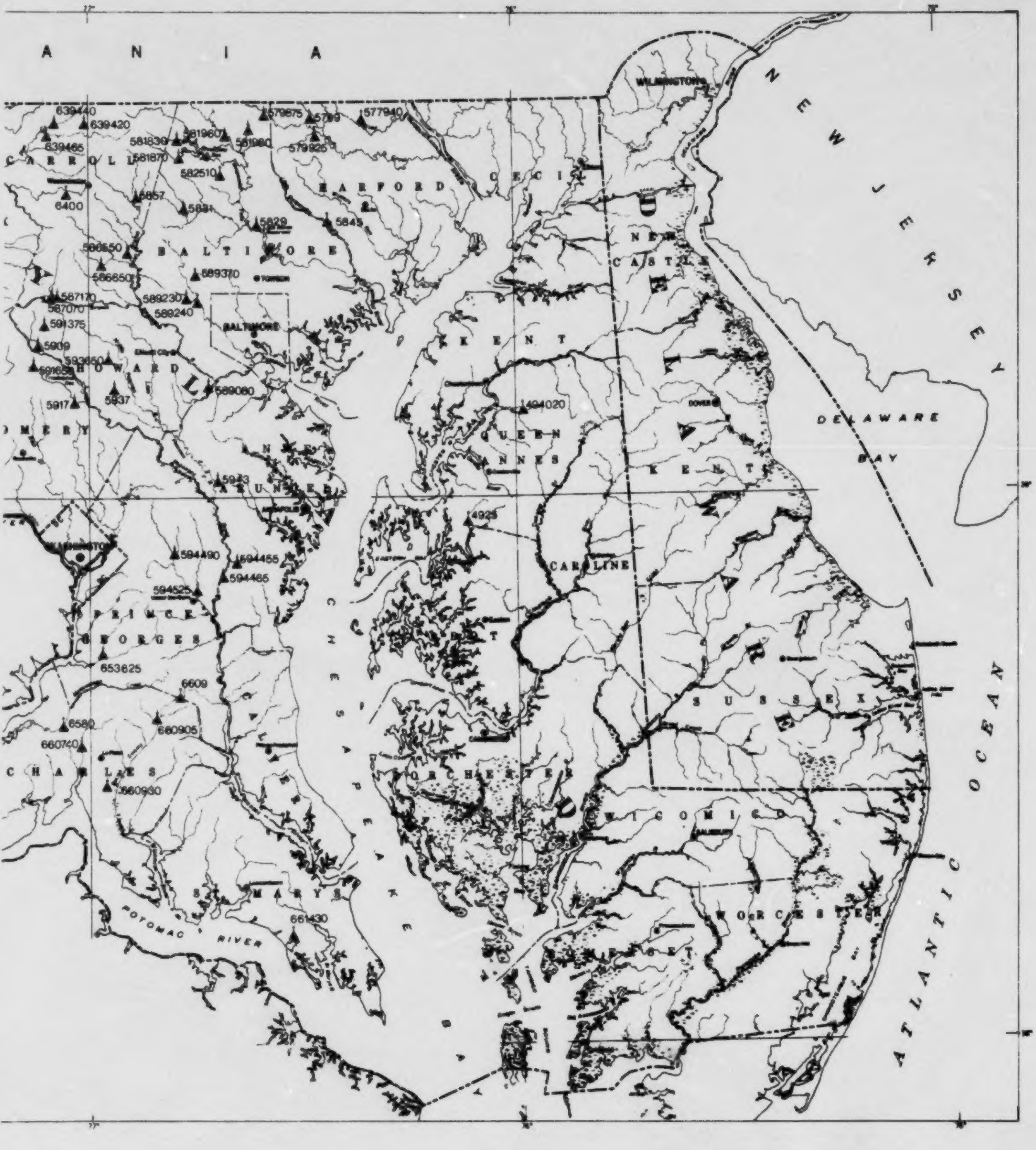
▲ 601325 LOW-FLOW PARTIAL-RECORD STATION

▲ 756 CREST-STAGE PARTIAL-RECORD STATION

▲ 610150 CREST-STAGE AND LOW-FLOW PARTIAL-RECORD STATION

NOTE: Station numbers are abbreviated, first two digits (part number) and last two digits (if zeros) are omitted. Examples; Station number 01597100 is shown as 5971; Station number 01605425 is shown as 605425.

Figure 4. Location of low-flow and crest-stage partial record stations in Maryland and Delaware.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ST MARYS
KENT
QUEEN ANNES
CAROLINE
TALBOT
DORCHESTER
WICOMICO
SOMERSET
WORCESTER
NEW CASTLE
KENT
SUSSEX
DELAWARE
MARYLAND
NEW JERSEY
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ATLANTIC OCEAN
CHESAPEAKE BAY
POTOMAC RIVER
WILMINGTON
BALTIMORE
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NORTH ATLANTIC SLOPE BASINS

DELAWARE RIVER BASIN

01477800 SHELLPOT CREEK AT WILMINGTON, DE

LOCATION.--Lat 39°45'39", long 75°31'10", New Castle County, Hydrologic Unit 02040205, on right bank 100 ft (30 m) east of intersection of 44th and Pine Streets in Clifton Park, 700 ft (213 m) downstream from bridge on North Market Street in Wilmington, 0.2 mi (0.3 km) downstream from Matson Run, and 2.3 mi (3.7 km) upstream from mouth.

DRAINAGE AREA.--7.46 mi^2 (19.32 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1945 to current year.

REVISED RECORDS.--WSP 1382: 1948(m).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 15.16 ft (4.621 m) National Vertical Datum of 1929.

REMARKS.--Water-discharge records good.

AVERAGE DISCHARGE.--32 years (water years 1947-78), 9.69 ft^3/s (0.274 m^3/s), 17.64 in/yr (448 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,850 ft^3/s (194 m^3/s) Sept. 13, 1971, gage height, 11.91 ft (3.630 m), from rating curve extended above 620 ft^3/s (17.6 m^3/s) on basis of computation of flow over dam at gage height 6.52 ft (1.987 m); contracted-opening measurements at gage heights 6.52 ft (1.987 m), 7.87 ft (2.429 m), and 8.6 ft (2.62 m), from floodmarks; type V culvert measurement at 9.10 ft (2.774 m); and contracted opening measurement of peak flow; minimum daily, 0.09 ft^3/s (0.003 m^3/s) Oct. 2, 4, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1940, that of Sept. 13, 1971. Flood of Aug. 1, 1945, reached a stage of about 8.5 ft (2.59 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 550 ft^3/s (15 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 1	0130	920	26.1	4.24	1.292
Dec. 18	1305	824	23.3	4.05	1.234
Jan. 9	0345	608	17.2	3.70	1.128
Jan. 17	2325	963	27.3	4.32	1.317
Jan. 26	0555	1490	42.2	5.32	1.622
Mar. 14	1600	1000	28.3	4.39	1.338
Mar. 26	1955	1480	41.9	5.29	1.612
May 14	0705	910	25.8	4.22	1.286
May 24	0715	668	18.9	3.80	1.158
July 3	1730	1550	43.9	5.43	1.655
Aug. 28	0530	*2210	62.6	6.63	2.021

Minimum daily discharge, 0.80 ft^3/s (0.023 m^3/s) Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	1.6	130	4.0	3.9	3.1	5.5	2.5	3.2	1.2	12	34
2	2.4	1.7	8.3	3.7	3.5	2.8	4.8	2.5	2.9	1.1	1.8	3.6
3	1.0	30	5.2	2.8	3.0	2.8	4.8	2.4	3.1	310	1.5	2.5
4	.82	10	4.0	2.6	2.4	3.1	6.3	12	4.0	20	1.7	2.1
5	.80	3.4	22	2.7	2.7	2.8	5.8	11	3.6	5.7	16	1.9
6	1.2	6.4	10	3.1	2.1	3.1	4.7	4.8	2.3	3.8	7.0	1.8
7	1.4	171	4.5	3.3	4.0	3.1	6.4	3.6	32	3.0	5.4	1.7
8	1.5	76	3.3	22	3.8	2.8	4.4	13	51	2.6	2.9	2.0
9	70	7.4	4.2	112	3.3	3.8	3.9	112	7.8	2.4	1.5	1.8
10	4.8	7.5	2.7	8.7	3.1	4.2	3.8	15	3.1	4.4	8.0	1.4
11	2.2	11	2.4	4.7	2.8	15	3.8	6.0	2.4	3.6	2.0	1.4
12	1.7	4.1	2.1	3.9	2.8	29	4.4	4.8	2.3	1.8	2.1	3.2
13	1.3	4.0	2.5	10	2.8	38	3.3	4.0	7.1	1.7	1.5	9.7
14	11	4.7	52	62	3.1	119	3.0	231	2.2	1.9	1.4	1.6
15	13	4.5	25	10	2.8	34	2.9	37	2.1	1.9	1.4	1.4
16	16	3.1	6.3	6.3	2.8	22	2.8	23	2.0	8.9	1.4	1.6
17	19	14	4.6	70	3.1	26	2.9	27	2.2	6.6	1.6	1.3
18	3.6	5.5	192	125	3.3	16	3.0	37	2.6	2.4	1.2	1.2
19	2.7	3.0	37	12	3.1	18	29	11	4.4	1.8	1.1	14
20	2.3	2.6	15	7.7	3.1	11	45	6.8	2.1	1.6	1.2	1.5
21	1.8	2,8	93	7.2	3.1	9.6	6.6	5.4	30	1.6	1.1	1.3
22	1.7	4.4	11	5.6	2.8	16	4.7	4.5	10	1.6	1.0	1.5
23	1.4	40	6.5	4.6	2.7	6.5	3.9	3.5	2.2	1.6	1.0	2.0
24	1.4	7.1	5.4	5.4	2.7	5.2	3.7	150	1.6	1.4	.93	1.2
25	1.7	25	26	164	3.8	4.4	3.4	14	1.5	3.7	1.0	1.1
26	6.5	63	6.4	351	4.8	280	3.2	6.6	1.7	1.5	1.1	.97
27	7.7	6.2	4.3	16	4.3	217	3.1	5.2	13	1.8	18	.95
28	3.2	4.9	3.5	7.9	3.1	19	3.0	4.7	2.7	5.3	238	.98
29	2.4	7.1	3.1	5.6	---	10	2.8	4.2	1.5	1.5	4.1	.87
30	1.9	16	3.8	4.5	---	6.9	2.7	4.1	1.4	1.2	2.3	.86
31	1.7	---	5.3	3.6	---	5.9	---	3.8	---	8.4	19	---
TOTAL	190.12	546.0	701.4	1051.9	88.8	940.1	187.6	772.4	208.0	416.0	360.23	101.43
MEAN	6.13	18.3	22.6	33.9	3.17	30.3	6.25	24.9	6.93	13.4	11.6	3.38
MAX	70	171	192	351	4.8	280	45	231	51	310	238	34
MIN	.80	1.6	2.1	2.6	2.1	2.8	2.7	2.4	1.4	1.1	.93	.86
CFSM	.82	2.45	3.03	4.54	.43	4.06	.84	3.34	.93	1.80	1.56	.45
IN.	.95	2.73	3.50	5.24	.44	4.69	.94	3.85	1.04	2.07	1.80	.51

CAL YR 1977 TOTAL 3294.05 MEAN 9.02 MAX 236 MIN .45 CFSM 1.21 IN 16.42
WTR YR 1978 TOTAL 5565.98 MEAN 15.2 MAX 351 MIN .80 CFSM 2.04 IN 27.75

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01477800 SHELLPOT CREEK AT WILMINGTON, DE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
OCT						
31...	1.6	270	7.7	15.0	12.0	10.1
NOV						
07...	100	117	7.7	17.0	13.0	9.4
DEC						
01...	29	--	7.0	11.0	9.5	--
JAN						
25...	67	175	7.2	8.0	4.5	7.5
FEB						
01...	5.0	270	6.9	-1.5	.0	14.1
MAR						
10...	3.5	280	7.5	5.0	3.5	13.5
APR						
10...	3.9	269	8.2	12.5	8.0	--
JUN						
01...	3.4	375	7.3	23.0	22.0	11.6
JUL						
04...	13	250	6.5	18.0	17.0	8.8
AUG						
01...	7.4	--	7.0	20.5	19.0	8.9
21...	1.1	350	6.9	24.0	22.5	9.4

01478000 CHRISTINA RIVER AT COOCHS BRIDGE, DE

LOCATION.--Lat 39°38'14", long 75°43'43", New Castle County, Hydrologic Unit 02040205, on right bank 60 ft (18 m) downstream from highway bridge, 0.5 mi (0.8 km) southeast of Coochs Bridge, 3.6 mi (5.8 km) upstream from Muddy Run, 3.3 mi (5.3 km) south of Newark, and 22.6 mi (36.4 km) upstream from mouth.

DRAINAGE AREA.--20.5 mi^2 (53.1 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1943 to current year.

GAGE.--Water-stage recorder. Datum of gage is 25.54 ft (7.78 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 14, 1944, nonrecording gage on upstream side of bridge at same datum. Sept. 14, 1944, to May 13, 1969, recording gage at site on left bank at downstream side of highway bridge at same datum. May 26, 1969, to Dec. 5, 1973, recording gage on left bank 82 ft (25 m) downstream from highway bridge at same datum.

REMARKS.--Water-discharge records good. Low and medium flow regulated by mill above station.

AVERAGE DISCHARGE.--35 years, 27.8 ft^3/s (0.787 m^3/s), 18.42 in/yr (468 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,320 ft^3/s (94.0 m^3/s) June 22, 1972, gage height, 11.35 ft (3.459 m); maximum gage height, 12.41 ft (3.783 m) May 2, 1947; minimum daily discharge, 0.2 ft^3/s (0.006 m^3/s) Aug. 7, 14, 18, 21, 27, 28, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft^3/s (28 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 18	1700	2140	60.6	10.55	3.216
Jan. 9	0630	1440	40.8	10.13	3.088
Jan. 18	0245	1270	36.0	9.97	3.039
Jan. 26	1045	*2860	81.0	11.01	3.356
Mar. 14	1945	1560	44.2	10.21	3.112
Mar. 26	2115	1710	48.4	10.31	3.142
May 15	0145	1410	39.9	10.10	3.078
July 3	1930	2550	72.2	10.80	3.292
Aug. 28	0930	1740	49.3	10.33	3.149

Minimum daily discharge, 2.0 ft^3/s (0.057 m^3/s) Oct. 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	6.1	343	25	51	21	29	12	14	7.7	20	84
2	4.3	9.3	38	25	44	17	24	11	13	7.3	7.3	11
3	5.7	20	17	24	37	17	22	11	12	916	6.6	9.5
4	3.5	30	15	21	33	21	29	23	14	164	6.6	8.7
5	2.0	12	62	20	25	17	25	49	14	35	104	7.9
6	2.0	11	55	22	21	17	21	19	12	20	59	8.4
7	3.3	181	19	23	32	17	31	15	14	16	15	6.0
8	4.4	60	13	86	31	16	22	20	85	14	14	7.9
9	88	18	15	537	27	20	18	322	27	13	11	5.4
10	14	13	12	47	26	21	18	73	13	13	17	5.0
11	4.7	38	11	30	25	86	16	25	12	12	14	8.8
12	7.9	13	11	25	24	176	17	19	11	11	12	8.9
13	3.6	11	9.7	39	24	227	16	17	13	11	8.9	67
14	45	10	147	255	26	520	14	347	11	10	8.5	8.3
15	40	9.7	140	81	25	228	13	383	8.5	9.8	7.7	9.4
16	24	9.9	26	46	23	140	13	163	8.9	10	7.7	5.4
17	34	18	18	75	24	149	13	137	12	11	5.1	6.7
18	13	16	809	504	22	114	13	161	11	8.1	6.9	8.3
19	10	10	237	81	21	132	82	58	9.8	8.5	3.8	8.7
20	8.3	9.4	90	48	20	97	134	33	8.1	7.3	4.9	7.3
21	7.1	11	243	44	19	77	29	25	11	8.1	5.4	6.7
22	7.1	9.3	67	34	20	108	19	19	16	5.1	4.0	6.7
23	6.3	112	40	31	19	53	16	19	9.4	6.3	5.7	7.0
24	8.9	22	35	30	19	36	16	128	8.1	5.7	3.4	6.5
25	5.4	30	104	575	22	26	15	56	7.7	8.5	6.6	6.5
26	18	210	41	1520	25	685	14	23	8.1	7.7	3.0	5.6
27	60	23	27	156	25	450	14	19	83	4.6	28	5.1
28	14	17	26	102	19	111	14	19	16	14	402	6.0
29	9.9	16	23	82	---	71	12	17	11	6.3	18	7.7
30	7.9	29	24	73	---	45	12	16	13	5.7	11	3.9
31	9.3	---	27	63	---	36	---	15	---	16	17	---
TOTAL	474.3	984.7	2744.7	4724	729	3751	731	2254	506.6	1392.7	844.1	354.3
MEAN	15.3	32.8	88.5	152	26.0	121	24.4	72.7	16.9	44.9	27.2	11.8
MAX	88	210	809	1520	51	685	134	383	85	916	402	84
MIN	2.0	6.1	9.7	20	19	16	12	11	7.7	4.6	3.0	3.9
CFSM	.75	1.60	4.32	7.42	1.27	5.90	1.19	3.55	.82	2.19	1.33	.58
IN.	.86	1.79	4.98	8.57	1.32	6.81	1.33	4.09	.92	2.53	1.53	.64

CAL YR 1977 TOTAL 10051.5 MEAN 27.5 MAX 809 MIN 2.0 CFSM 1.34 IN 18.24
WTR YR 1978 TOTAL 19490.4 MEAN 53.4 MAX 1520 MIN 2.0 CFSM 2.61 IN 35.37

01478000 CHRISTINA RIVER AT COOCHS BRIDGE, DE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
NOV						
02...	18	165	7.4	19.0	12.0	10.8
DEC						
21...	427	190	8.1	13.0	10.0	11.2
JAN						
19...	60	210	7.2	6.0	4.5	7.9
MAR						
08...	38	180	7.2	2.0	2.0	7.8
APR						
11...	17	141	7.4	15.0	11.5	--
MAY						
08...	23	161	6.9	12.0	11.5	10.8
JUN						
06...	13	167	6.7	18.5	18.0	6.9
AUG						
25...	16	190	7.3	25.0	24.0	6.5

01478500 WHITE CLAY CREEK ABOVE NEWARK, DE

LOCATION.--Lat 39°42'52", long 75°45'34", New Castle County, Hydrologic Unit 02040205, on right bank at downstream wingwall of abandoned bridge, 0.9 mi (1.4 km) downstream from small tributary, 1.7 mi (2.7 km) southeast of Delaware-Maryland-Pennsylvania State corner, 2.1 mi (3.4 km) downstream from Pennsylvania-Delaware State line, 2.2 mi (3.5 km) north of Newark, and 12.8 mi (20.6 km) upstream from mouth.

DRAINAGE AREA.--66.7 mi² (172.8 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1952 to September 1959, July 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 78.6 ft (24.0 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair except those for February, which are poor. Records do not include a negligible diversion above station by plant of E. I. du Pont de Nemours & Co.

AVERAGE DISCHARGE.--23 years (water years 1953-59, 1963-78), 85.6 ft³/s (2.424 m³/s), 17.43 in/yr (443 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft³/s (289 m³/s) June 22, 1972, gage height, 13.77 ft (4.197 m), from rating curve extended above 1,800 ft³/s (51.0 m³/s) on basis of contracted-opening measurements at gage heights 9.97 ft (3.039 m) and 13.77 ft (4.197 m); minimum, 4.6 ft³/s (0.13 m³/s) Dec. 7, 1954, gage height, 0.55 ft (0.168 m), result of freezeup; minimum daily, 5.6 ft³/s (0.16 m³/s) Sept. 10, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 18	1630	3110	88.1	7.98	2.432
Jan. 9	0600	1970	55.8	6.14	1.871
Jan. 26	1145	*6200	176	11.60	3.536
Mar. 14	1830	3560	101	8.61	2.624
Mar. 26	2100	2350	66.6	6.78	2.067
May 14	2245	2440	69.1	6.94	2.115
July 3	1800	2930	83.0	7.72	2.353
Aug. 28	0615	1610	45.6	5.49	1.673

Minimum daily discharge, 21 ft³/s (0.59 m³/s) Oct. 5, 6, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	31	230	87	107	69	126	81	88	68	67	88
2	26	31	100	85	99	67	114	80	86	67	60	71
3	23	36	78	79	96	68	121	79	84	920	59	66
4	22	52	71	74	90	74	132	80	91	267	59	65
5	21	38	75	72	94	69	124	120	89	118	78	64
6	21	37	94	76	61	72	119	111	85	143	99	64
7	22	204	73	79	97	71	150	101	81	111	64	64
8	21	146	64	128	107	62	120	93	94	91	59	63
9	100	63	65	767	105	63	110	223	85	81	59	62
10	52	52	59	152	99	66	105	165	76	75	97	62
11	31	98	53	110	81	81	110	120	75	72	77	62
12	27	52	50	100	81	178	115	112	73	70	66	79
13	24	45	60	110	80	376	105	103	73	68	59	70
14	38	41	106	321	88	1320	98	663	75	68	75	61
15	72	39	199	131	81	729	96	546	72	68	59	58
16	50	38	90	105	83	240	94	262	70	68	58	58
17	56	45	75	118	81	162	92	216	70	67	58	58
18	45	47	1180	638	78	145	90	264	70	67	58	59
19	35	39	338	171	75	356	130	195	70	65	56	75
20	33	37	162	135	70	218	195	162	69	64	56	56
21	31	37	351	130	76	187	123	138	68	62	56	56
22	29	39	158	112	68	211	105	158	95	61	55	56
23	28	131	123	124	68	137	97	110	69	61	55	54
24	27	66	114	147	75	120	95	200	68	61	55	54
25	27	58	147	838	70	105	92	130	68	61	55	54
26	35	249	110	3160	74	751	90	110	67	61	55	54
27	51	68	90	300	72	651	89	100	196	62	55	52
28	44	57	86	175	71	208	87	98	85	113	508	51
29	34	55	80	147	---	155	85	96	69	60	86	51
30	32	66	94	127	---	146	83	94	68	59	75	51
31	30	---	91	117	---	133	---	92	---	62	85	---
TOTAL	1111	1997	4666	8915	2327	7290	3292	5102	2429	3341	2463	1838
MEAN	35.8	66.6	151	288	83.1	235	110	165	81.0	108	79.5	61.3
MAX	100	249	1180	3160	107	1320	195	663	196	920	508	88
MIN	21	31	50	72	61	62	83	79	67	59	55	51
CFSM	.54	1.00	2.26	4.32	1.25	3.52	1.65	2.47	1.21	1.62	1.19	.92
IN.	.62	1.11	2.60	4.97	1.30	4.07	1.84	2.85	1.35	1.86	1.37	1.03

CAL YR 1977 TOTAL 25502 MEAN 69.9 MAX 1180 MIN 21 CFSM 1.05 IN 14.22
WTR YR 1978 TOTAL 44771 MEAN 123 MAX 3160 MIN 21 CFSM 1.84 IN 24.97

01478500 WHITE CLAY CREEK ABOVE NEWARK, DE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT												
16...	1605	21	240	7.9	26.0	22.0	8.6	--	--	--	--	--
19...	1230	48	209	7.9	17.0	9.0	11.9	95	41	24	8.5	8.3
NOV												
02...	0915	31	219	7.6	17.5	11.0	9.8	--	--	--	--	--
DEC												
07...	1210	72	275	7.8	10.0	7.5	8.8	--	--	--	--	--
JAN												
30...	1240	130	180	7.8	2.5	1.5	9.1	--	--	--	--	--
MAR												
07...	1325	67	225	7.9	5.0	2.5	12.1	--	--	--	--	--
APR												
18...	0950	89	195	7.9	16.5	10.0	--	--	--	--	--	--
AUG												
29...	0945	89	220	7.5	23.5	22.0	13.6	--	--	--	--	--

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY (MG/L AS CACO3)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)
OCT												
16...	--	--	--	--	--	--	--	--	--	--	--	--
19...	6.8	66	54	15	.0	14	180	137	2.6	.02	.03	.40
NOV												
02...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
07...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
30...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
07...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
18...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
29...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO. TOTAL (MG/L AS P)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	NICKEL, DIS-SOLVED (UG/L AS NI)	ZINC, DIS-SOLVED (UG/L AS ZN)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT												
16...	--	--	--	--	--	--	--	--	--	--	--	--
19...	.11	.09	1	0	2	3	150	10	60	1	60	.10
NOV												
02...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
07...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
30...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
07...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
18...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
29...	--	--	--	--	--	--	--	--	--	--	--	--

01478500 WHITE CLAY CREEK ABOVE NEWARK, DE--Continued

BENTHIC INVERTEBRATE ANALYSES, OCTOBER 1977 TO OCTOBER 1977

DATE	OCT 19,77
TIME	1230
TOTAL COUNT	80
DIVERSITY: PHYLUM	0.3
.CLASS	0.4
..ORDER	1.6
...FAMILY	2.4
....GENUS	2.7
....GENUS-INSECTA	2.5

ORGANISM	COUNT
ARTHROPODA (ARTHROPODS)	
.INSECTA	
..DIPTERA	
...CHIRONOMIDAE	
....CARDIOCLADIUS	10
....RHEOTANYTARSUS	5
...EMPIDIDAE	
....HEMERODROMIA	4
...TIPULIDAE	
....ANTOCHA	1
..EPHEMEROPTERA	
...BAETIDAE	
....BAETIS	1
...HEPTAGENIIDAE	
....STENONEMA	6
...SIPHLONURIDAE	
....SIPHLONURUS	1
..TRICHOPTERA	
...HYDROPSYCHIDAE	
....HYDROPSYCHE	35
....POTAMYIA	2
...HYDROPTILIDAE	
....LEUCOTRICHIA	10
.ARACHNIDA	
..HYDRACARINA	
...UNKNOWN FAMILY	
....UNKNOWN GENUS #3	1
MOLLUSCA (MOLLUSCS)	
.GASTROPODA	
..BASOMMATOPHORA	
...ANCYLIDAE	
....FERRISSIA	4

01479000 WHITE CLAY CREEK NEAR NEWARK, DE

LOCATION.--Lat 39°41'57", long 75°40'33", New Castle County, Hydrologic Unit 02040205, on left bank 35 ft (11 m) downstream from bridge on private road owned by Delaware Racing Association, 0.4 mi (0.6 km) downstream from the Baltimore and Ohio Railroad bridge, 1.1 mi (1.8 km) downstream from Pike Creek, 3.8 mi (6.1 km) east of Newark, and 5.0 mi (8.0 km) upstream from mouth. Prior to April 8, 1976, at site 0.5 mi (0.8 km) upstream.
DRAINAGE AREA.--89.1 mi² (230.8 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1931 to September 1936, June 1943 to September 1957, October 1959 to current year. Monthly discharge only for some periods, published in WSP 1302.
REVISED RECORDS.--WSP 1051: 1933(M). WSP 1382: 1932, 1934.
GAGE.--Water-stage recorder. Datum of gage is 9.00 ft (2.74 m) National Geodetic Vertical Datum of 1929. Nov. 17, 1931, to Sept. 30, 1936, June 4, 1943, to Sept. 30, 1957, and Oct. 1, 1959, to Apr. 7, 1976, at site 0.5 mi (0.8 km) upstream at datum 2.6 ft (0.792 m) higher.
REMARKS.--Water-discharge records good except those for period Jan. 29 to Mar. 11, which are poor. Slight diurnal fluctuation at low flow caused by mills above station. Records do not include a negligible diversion above station by plant of E. I. du Pont de Nemours & Co.
AVERAGE DISCHARGE.--38 years (water years 1932-36, 1944-57, 1960-78), 113 ft³/s (3.200 m³/s), 17.22 in/yr (437 mm/yr).
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,080 ft³/s (257 m³/s) June 22, 1972, gage height, 15.91 ft (4.849 m), present datum, from rating curve extended above 6,000 ft³/s (170 m³/s) on basis of contracted-opening and flow-over-road measurement of peak flow; minimum, 4.7 ft³/s (0.13 m³/s) Sept. 11, 1966; minimum daily, 5.0 ft³/s (0.14 m³/s) Sept. 10, 1966.
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 23 ft (7 m), previous site and datum, in July 1937 (probably affected by backwater from railroad bridge which has since been raised and widened), from information by Baltimore & Ohio Railroad.
EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s (56 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 18	1730	5140	146	13.36	4.072	Mar. 26	2100	4680	133	13.47	4.106
Jan. 9	0800	4010	114	12.44	3.792	May 14	2245	4310	122	13.18	4.017
Jan. 26	1430	*6950	197	15.11	4.606	July 3	2000	4460	126	13.83	4.215
Mar. 14	2130	5160	146	13.83	4.215	Aug. 28	0600	3440	97.4	13.66	4.164

Minimum daily discharge, 25 ft³/s (0.71 m³/s) Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	37	537	119	150	96	168	114	114	80	123	147
2	36	38	136	118	145	96	157	113	109	79	92	101
3	26	47	107	110	140	96	152	113	108	1680	89	93
4	26	59	93	105	130	105	165	129	119	595	90	89
5	25	48	124	108	125	96	165	155	111	177	156	84
6	26	49	126	107	100	100	150	130	106	141	152	82
7	27	393	94	110	150	98	159	122	110	127	109	80
8	26	254	81	170	145	86	146	131	201	119	94	78
9	158	90	84	1610	130	88	138	423	124	115	86	79
10	73	70	80	200	120	94	136	224	105	111	122	77
11	38	119	74	160	120	110	135	136	99	108	129	76
12	34	68	70	140	120	310	137	125	97	103	103	83
13	31	59	80	150	115	659	131	125	105	101	90	132
14	58	54	207	625	120	2090	127	1250	97	100	107	78
15	119	52	288	180	110	1420	125	1220	91	104	86	75
16	64	50	119	150	105	404	124	354	88	101	82	76
17	85	64	102	270	110	270	124	273	94	102	80	74
18	57	66	2420	1330	110	226	124	388	95	97	76	73
19	44	53	712	227	105	452	183	201	90	94	75	109
20	40	49	253	190	100	338	300	167	86	92	74	84
21	38	48	627	180	105	257	156	151	91	91	72	75
22	37	52	223	160	105	310	139	138	119	89	71	74
23	36	200	166	150	100	200	131	133	89	87	71	75
24	35	93	154	140	100	179	128	243	83	84	70	72
25	35	91	206	1600	96	161	125	161	81	92	70	71
26	46	471	155	5220	105	1620	123	135	80	90	71	69
27	75	102	125	586	100	1490	122	129	251	86	162	68
28	56	78	115	280	100	302	120	127	112	158	1070	68
29	43	76	110	200	---	219	118	124	89	94	141	67
30	40	94	110	170	---	188	117	121	86	86	103	68
31	38	---	127	160	---	176	---	117	---	104	113	---
TOTAL	1502	3024	7905	15017	3261	12336	4325	7472	3230	5287	4029	2477
MEAN	48.5	101	255	484	116	398	144	241	108	171	130	82.6
MAX	158	471	2420	5220	150	2090	300	1250	251	1680	1070	147
MIN	25	37	70	100	96	86	117	113	80	79	70	67
CFSM	.54	1.13	2.86	5.43	1.30	4.47	1.62	2.71	1.21	1.92	1.46	.93
IN.	.63	1.26	3.30	6.27	1.36	5.15	1.81	3.12	1.35	2.21	1.68	1.03

CAL YR 1977 TOTAL 37511 MEAN 103 MAX 2420 MIN 23 CFSM 1.16 IN 15.66
WTR YR 1978 TOTAL 69865 MEAN 191 MAX 5220 MIN 25 CFSM 2.14 IN 29.17

01479000 WHITE CLAY CREEK NEAR NEWARK, DE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
OCT												
19...	0830	52	216	7.5	10.0	10.0	10.1	97	40	25	8.5	8.7
NOV												
02...	1125	38	227	7.9	18.5	12.5	10.9	--	--	--	--	--
DEC												
13...	1330	134	160	7.4	4.5	2.0	7.9	--	--	--	--	--
JAN												
18...	1050	1330	142	6.6	6.0	4.0	13.0	--	--	--	--	--
18...	1350	880	140	6.4	4.0	3.0	12.4	--	--	--	--	--
MAR												
08...	1335	130	260	7.3	2.0	2.5	11.0	--	--	--	--	--
APR												
25...	1130	130	275	7.2	17.5	15.0	10.8	--	--	--	--	--
JUN												
06...	1230	106	205	7.3	17.0	17.5	9.6	--	--	--	--	--
JUL												
14...	1300	97	130	7.0	20.0	21.0	7.3	--	--	--	--	--
SEP												
08...	0850	79	235	7.6	20.0	21.0	9.1	--	--	--	--	--

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	ALKALINITY (MG/L AS CACO3)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)
OCT												
19...	8.6	70	57	16	.1	14	167	148	2.4	.03	.17	.53
NOV												
02...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
13...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
08...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
25...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
06...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
14...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
08...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO. TOTAL (MG/L AS P)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	NICKEL, DISSOLVED (UG/L AS NI)	ZINC, DISSOLVED (UG/L AS ZN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
OCT												
19...	.13	.09	0	0	0	3	130	0	100	0	820	.10
NOV												
02...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
13...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
18...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
08...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
25...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
06...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
14...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
08...	--	--	--	--	--	--	--	--	--	--	--	--

01479000 WHITE CLAY CREEK NEAR NEWARK, DE--Continued

BENTHIC INVERTEBRATE ANALYSES, OCTOBER 1977 TO OCTOBER 1977

DATE	OCT 19,77
TIME	0830
TOTAL COUNT	6
DIVERSITY: PHYLUM	0.7
.CLASS	0.7
..ORDER	0.7
...FAMILY	0.7
....GENUS	1.5
....GENUS-INSECTA	1.0

ORGANISM	COUNT
ANNELIDA	
.HIRUDINEA	
..UNKNOWN ORDER	
...UNKNOWN FAMILY	
....UNKNOWN GENUS #3	1
ARTHROPODA (ARTHROPODS)	
.INSECTA	
..TRICHOPTERA	
...HYDROPSYCHIDAE	
....CHEUMATOPSYCHE	3
....HYDROPSYCHE	2

01480000 RED CLAY CREEK AT WOODDALE, DE

LOCATION.--Lat 39°45'52", long 75°38'08", New Castle County, Hydrologic Unit 02040205, on right bank 12 ft (4 m) upstream from bridge on State Highway 48, 0.3 mi (0.5 km) south of Wooddale, 2.3 mi (3.7 km) north of Marshallton, and 4.9 mi (7.9 km) upstream from mouth.

DRAINAGE AREA.--47.0 mi^2 (121.7 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1943 to current year.

REVISED RECORDS.--WSP 1141: 1948. WSP 1272: 1951(m). WSP 1432: 1944(M), 1945, 1946(M), 1948, 1949(M). WSP 2102: 1960(M), 1964(M), 1966-67(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 81.46 ft (24.829 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 21, 1950, nonrecording gage at site 10 ft (3 m) downstream at same datum.

REMARKS.--Water-discharge records good. Some diurnal fluctuation at low flow caused by mills above station.

AVERAGE DISCHARGE.--35 years, 64.7 ft^3/s (1.832 m^3/s), 18.69 in/yr (475 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,010 ft^3/s (142 m^3/s) July 21, 1975, gage height, 10.32 ft (3.146 m); minimum, 2.9 ft^3/s (0.082 m^3/s) Sept. 4, 1966; minimum daily, 4.5 ft^3/s (0.13 m^3/s) Sept. 4, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft^3/s (34 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 18	1615	1840	52.1	5.78	1.762	Mar. 26	2200	1980	56.1	6.00	1.829
Jan. 9	0630	1470	41.6	5.26	1.603	May 14	1115	1270	36.0	4.96	1.512
Jan. 26	1100	*4100	116	8.96	2.731	July 3	1845	2210	62.6	6.32	1.926
Mar. 14	2000	2690	76.2	6.95	2.118	Aug. 28	0800	2860	81.0	7.17	2.185

Minimum discharge, 7.9 ft^3/s (0.22 m^3/s) July 26, Sept. 24, gage height, 2.27 ft (0.692 m), result of regulation; minimum daily, 17 ft^3/s (0.48 m^3/s) Oct. 5, 6, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	21	190	62	95	60	107	58	71	45	70	105
2	23	20	71	60	91	59	95	57	67	45	51	65
3	18	28	57	55	86	63	93	56	67	685	48	56
4	18	43	50	53	82	61	106	67	77	217	53	52
5	17	28	57	53	78	57	106	89	67	100	75	48
6	17	25	78	56	69	56	89	69	64	77	126	46
7	18	197	50	60	90	55	101	63	66	67	68	44
8	17	286	42	102	88	56	87	67	90	63	53	43
9	87	70	44	534	79	57	81	233	74	59	47	44
10	43	51	39	94	76	61	79	126	62	57	64	39
11	25	71	35	76	75	75	80	79	59	56	58	40
12	22	43	34	71	74	149	82	71	57	52	48	43
13	23	38	38	74	71	296	76	71	65	49	46	64
14	32	35	96	249	74	988	70	549	57	50	60	43
15	66	34	138	103	69	372	66	261	53	59	43	41
16	33	33	61	76	67	169	65	179	52	53	41	40
17	61	45	53	94	68	132	65	155	54	60	40	40
18	35	48	675	491	67	122	65	234	55	51	36	39
19	30	35	245	135	65	227	122	131	53	47	35	89
20	27	32	117	111	63	163	181	110	50	45	34	49
21	25	32	274	97	63	146	92	99	85	43	32	43
22	23	35	122	84	62	169	77	87	123	42	31	45
23	22	127	92	79	61	119	71	85	60	40	31	49
24	21	59	83	78	61	103	69	169	54	38	30	37
25	20	51	112	612	62	91	67	110	51	48	31	39
26	25	220	80	2070	64	609	65	91	50	39	32	37
27	36	61	64	231	63	559	64	85	224	42	340	36
28	31	51	61	147	61	183	63	85	72	174	1060	36
29	24	49	58	121	---	140	60	81	53	51	111	34
30	22	59	58	111	---	121	59	78	50	45	69	37
31	21	---	65	104	---	112	---	75	---	60	83	---
TOTAL	902	1927	3239	6343	2024	5630	2503	3770	2082	2559	2946	1423
MEAN	29.1	64.2	104	205	72.3	182	83.4	122	69.4	82.5	95.0	47.4
MAX	87	286	675	2070	95	988	181	549	224	685	1060	105
MIN	17	20	34	53	61	55	59	56	50	38	30	34
CFSM	.62	1.37	2.21	4.36	1.54	3.87	1.77	2.60	1.48	1.76	2.02	1.01
IN.	.71	1.53	2.56	5.02	1.60	4.46	1.98	2.98	1.65	2.03	2.33	1.13

CAL YR 1977 TOTAL 18313 MEAN 50.2 MAX 675 MIN 12 CFSM 1.07 IN 14.49
WTR YR 1978 TOTAL 35348 MEAN 96.8 MAX 2070 MIN 17 CFSM 2.06 IN 27.98

01480000 RED CLAY CREEK AT WOODDALE, DE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1953 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: April 1953 to current year.

INSTRUMENTATION.--Temperature recorder since April 1953.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum, 30.5°C July 17, Aug. 2, 6, 1955, July 19, 1963; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 26.0°C July 23, 24, Aug. 17; minimum, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
NOV						
01...	21	280	7.5	14.0	10.5	11.4
DEC						
13...	39	250	7.9	7.5	.5	7.9
JAN						
30...	100	210	7.9	1.0	.0	10.1
MAR						
07...	68	290	7.6	3.5	2.0	8.8
APR						
20...	190	230	7.4	14.0	10.5	--
JUN						
02...	67	258	7.3	25.0	24.0	9.3
JUL						
14...	49	240	7.6	22.0	21.5	9.6

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	17.0	16.5	11.5	10.0	7.5	6.0	2.0	2.0	.0	.0	3.0	1.5
2	18.5	17.0	14.0	11.5	7.5	7.5	2.0	1.5	.5	.0	2.5	1.5
3	18.0	15.0	15.5	14.0	7.5	6.5	1.5	.5	.5	.0	2.5	1.0
4	15.0	14.0	18.0	15.5	6.5	5.5	.5	.5	.5	.0	2.0	.5
5	15.0	13.0	18.0	17.5	6.0	5.0	.5	.5	.0	.0	2.0	.5
6	14.0	13.5	18.0	16.0	6.0	5.5	3.0	.5	.0	.0	2.0	.5
7	14.0	13.0	15.5	14.5	5.5	2.5	3.5	2.5	.0	.0	2.0	.5
8	13.0	12.5	14.5	14.0	2.5	1.5	5.0	3.5	.0	.0	1.5	1.5
9	14.5	13.0	14.5	14.0	2.5	1.5	6.0	1.0	.0	.0	2.5	1.5
10	14.5	13.0	15.0	14.5	2.5	1.0	1.0	.0	.0	.0	3.5	2.5
11	13.5	12.0	15.0	10.5	1.0	1.0	.0	.0	.0	.0	5.0	3.0
12	13.5	13.0	10.5	8.0	1.0	1.0	.0	.0	.0	.0	6.0	4.5
13	13.0	12.5	8.0	6.0	1.0	.5	.0	.0	.0	.0	5.0	2.5
14	12.5	11.5	6.0	5.0	4.5	.5	1.0	.0	.0	.0	3.0	1.0
15	11.5	11.0	7.0	5.5	5.5	4.5	1.0	.0	.0	.0	5.0	1.0
16	12.0	11.0	8.5	7.0	5.0	4.0	.0	.0	.0	.0	4.0	2.0
17	12.0	10.5	11.0	8.5	4.0	3.5	.5	.0	1.5	.5	4.0	2.0
18	10.5	9.0	11.0	9.0	4.0	3.0	.5	.0	2.0	1.5	4.5	3.5
19	11.5	10.0	9.0	7.5	4.0	3.0	.5	.0	2.0	1.5	6.5	4.0
20	12.0	11.0	7.5	6.5	5.0	4.0	.0	.0	2.0	.5	6.0	3.5
21	12.0	11.0	7.0	6.5	6.0	5.0	.0	.0	1.5	.5	9.0	6.0
22	12.5	10.5	8.0	7.0	6.0	4.0	.0	.0	1.5	.5	9.0	8.0
23	12.0	11.0	8.0	7.5	4.0	3.0	.0	.0	1.5	.5	9.5	8.0
24	11.5	10.0	8.5	7.5	4.0	3.5	.0	.0	1.5	.5	10.5	9.0
25	12.0	10.0	8.0	7.0	6.0	4.0	.0	.0	3.5	1.5	9.5	6.0
26	13.0	11.5	7.0	5.0	5.5	1.0	.0	.0	4.0	3.0	6.0	5.0
27	15.5	13.0	5.0	3.5	1.0	.5	.0	.0	3.5	2.0	8.0	5.5
28	17.0	15.5	4.0	3.5	.5	.5	.0	.0	2.5	1.0	9.5	7.5
29	16.0	14.0	4.5	4.0	.5	.5	.0	.0	---	---	10.5	9.0
30	14.0	12.0	6.0	4.5	.5	.5	.5	.0	---	---	9.5	8.0
31	12.0	10.0	---	---	2.0	.5	.5	.0	---	---	10.0	8.0
MONTH	18.5	9.0	18.0	3.5	7.5	.5	6.0	.0	4.0	.0	10.5	.5

01480000 RED CLAY CREEK AT WOODDALE, DE--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	12.5	9.0	15.0	12.0	21.0	19.0	23.5	22.0	21.5	20.5	22.0	21.0
2	12.5	11.0	14.5	11.5	22.0	19.0	21.5	19.5	21.0	21.0	21.0	20.0
3	11.0	7.5	15.5	12.5	22.0	20.5	19.5	17.5	22.5	21.0	21.0	20.0
4	9.5	7.0	15.5	12.0	20.0	18.5	18.0	17.5	22.5	22.5	21.0	20.0
5	13.0	9.5	12.0	10.5	19.5	17.5	19.0	16.5	22.5	22.0	20.5	19.0
6	12.0	10.0	10.5	10.0	19.0	17.0	20.5	18.0	22.5	21.5	21.0	19.5
7	11.5	9.5	13.0	10.5	19.0	18.0	21.5	19.0	24.0	22.5	22.0	20.5
8	13.0	10.5	12.5	12.0	19.5	18.5	22.5	20.0	24.5	23.0	22.0	20.0
9	11.5	9.5	14.5	12.0	21.5	19.5	23.5	22.0	24.5	23.0	20.0	19.0
10	12.0	9.5	14.5	13.5	20.5	18.5	23.5	22.5	24.0	23.0	19.0	17.5
11	12.0	10.5	14.5	12.5	21.0	18.5	23.5	22.5	23.5	22.0	19.5	18.0
12	14.5	11.0	16.5	12.0	21.5	19.0	22.5	20.0	23.5	22.5	21.5	19.5
13	14.5	12.0	16.5	15.5	21.0	19.0	21.5	19.5	23.5	23.0	21.0	18.5
14	14.0	11.5	15.5	13.5	19.0	17.0	21.0	20.0	24.0	23.0	18.5	17.5
15	12.5	10.0	14.5	12.5	18.0	16.0	21.5	20.0	24.5	23.5	18.0	17.5
16	11.5	9.5	12.5	12.0	18.5	16.5	21.5	20.5	25.5	24.0	19.5	18.0
17	11.0	9.0	13.0	12.0	18.5	18.0	21.0	20.0	26.0	24.5	20.0	19.0
18	12.0	9.5	14.0	12.5	20.0	17.0	22.0	20.0	25.0	23.0	21.0	19.5
19	12.0	10.5	16.5	13.5	22.0	19.5	22.0	20.5	24.0	22.5	21.0	20.0
20	11.5	10.5	18.5	15.0	23.0	21.0	23.5	21.5	24.5	23.5	20.0	19.0
21	11.5	10.5	19.5	17.5	22.5	20.5	24.5	23.0	23.5	22.0	20.0	19.0
22	13.0	10.0	18.0	15.5	22.0	20.5	25.0	23.5	23.0	21.0	20.0	20.0
23	13.5	10.0	17.0	15.5	21.5	20.0	26.0	24.0	23.0	20.5	20.0	18.0
24	14.5	12.0	16.5	14.5	21.0	20.0	26.0	24.5	23.0	21.0	18.0	16.0
25	15.0	12.0	16.5	14.5	21.0	19.0	25.0	23.0	22.5	22.0	16.5	15.5
26	14.5	13.0	18.5	15.5	20.5	19.5	23.0	22.0	22.5	21.0	16.0	15.0
27	12.5	11.0	18.0	16.5	22.0	20.0	23.5	22.0	22.0	21.0	15.0	13.5
28	13.5	9.5	17.5	16.0	23.5	21.5	23.0	21.5	22.0	21.0	15.0	14.0
29	15.0	11.5	18.0	17.0	23.5	21.5	22.0	20.5	23.0	22.0	14.5	13.0
30	16.0	13.5	19.5	17.0	24.0	21.5	23.0	21.5	23.0	22.0	13.5	12.5
31	---	---	20.0	18.5	---	---	22.5	21.5	22.0	21.5	---	---
MONTH	16.0	7.0	20.0	10.0	24.0	16.0	26.0	16.5	26.0	20.5	22.0	12.5

01480100 LITTLE MILL CREEK AT ELSMERE, DE

LOCATION.--Lat 39°44'05", long 75°35'14", New Castle County, Hydrologic Unit 02040205, on left bank at downstream side of bridge on North Du Pont Road at Elsmere, 0.5 mi (0.8 km) downstream from unnamed tributary, and 2.2 mi (3.5 km) upstream from mouth.

DRAINAGE AREA.--6.70 mi² (17.35 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder. Concrete control since Nov. 5, 1968. Prior to Mar. 19, 1964, nonrecording gage at same site and datum. Datum of gage is 48.62 ft (14.819 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good.

AVERAGE DISCHARGE.--15 years, 10.1 ft³/s (0.286 m³/s), 20.47 in/yr (520 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,960 ft³/s (112 m³/s) Aug. 10, 1967, gage height, 8.58 ft (2.615 m), from rating curve extended above 380 ft³/s (10.8 m³/s) on basis of contracted-opening measurement of peak flow; minimum, 0.10 ft³/s (0.003 m³/s) July 17, 18, Sept. 18, 19, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 350 ft³/s (9.9 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 1	0100	430	12.2	4.07	1.241	May 14	1030	367	10.4	3.88	1.183
Dec. 18	1315	550	15.6	4.40	1.341	May 24	0900	378	10.7	3.91	1.192
Jan. 17	2345	597	16.9	4.53	1.381	June 8	1430	534	15.1	4.36	1.329
Jan. 26	0515	*1650	46.7	6.79	2.070	June 21	1845	586	16.6	4.50	1.372
Mar. 14	1545	450	12.7	4.13	1.259	July 3	1730	912	25.8	5.13	1.564
Mar. 26	1930	842	23.8	5.14	1.567	Aug. 28	0445	1300	36.8	6.19	1.887

Minimum discharge, 0.33 ft³/s (0.009 m³/s) Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	1.3	97	5.6	6.6	4.4	7.2	3.8	5.4	2.5	15	41
2	1.5	1.2	9.2	5.6	6.0	4.3	6.3	3.7	5.0	2.7	2.6	4.5
3	.92	8.0	6.3	4.6	5.7	4.7	7.2	3.6	5.2	237	2.1	3.1
4	.75	3.6	5.1	4.5	5.0	5.8	9.3	13	5.9	23	2.7	2.4
5	.65	2.2	22	4.6	5.2	4.2	7.3	10	6.4	7.7	8.5	2.1
6	.97	5.4	12	4.8	3.9	4.5	6.1	5.6	4.6	5.3	7.8	2.1
7	1.0	79	6.0	5.1	7.5	4.2	8.1	4.3	29	4.3	4.0	2.1
8	1.0	42	5.0	21	6.3	4.0	5.9	12	61	3.9	3.1	1.9
9	48	5.7	5.7	92	5.6	5.3	5.2	87	12	3.6	1.8	1.7
10	3.6	6.2	4.2	10	5.3	7.0	5.3	13	5.8	3.5	17	1.5
11	1.7	5.5	3.2	6.7	4.9	16	5.4	6.7	4.7	3.8	3.6	1.7
12	1.5	3.0	3.9	6.1	4.6	28	7.5	5.6	4.3	2.8	3.1	7.1
13	1.3	2.4	3.9	19	4.6	33	4.8	6.6	8.0	2.7	2.1	13
14	12	2.4	42	74	5.9	87	4.3	142	4.4	2.9	2.0	2.0
15	7.3	2.5	22	13	5.2	25	4.3	59	3.8	2.9	1.9	1.9
16	6.2	2.3	7.1	7.8	5.0	25	4.3	29	3.6	2.8	1.8	1.8
17	11	8.5	5.6	53	5.5	25	4.5	28	3.7	5.6	1.7	1.5
18	2.3	3.7	176	131	5.3	14	4.5	49	3.8	2.9	1.6	1.6
19	2.2	2.3	46	15	5.1	11	29	16	7.1	2.3	1.4	21
20	1.6	2.4	19	14	4.9	9.6	40	10	3.7	2.1	1.4	2.2
21	1.3	2.7	80	10	4.3	9.4	8.1	8.2	51	2.0	1.2	1.7
22	1.3	3.8	14	7.8	3.8	15	6.1	6.6	15	1.9	1.3	1.7
23	1.2	30	9.0	7.2	4.6	8.0	5.3	6.1	4.8	2.1	1.3	1.6
24	1.2	5.0	7.6	6.9	4.3	6.9	5.1	100	3.9	1.9	1.3	1.5
25	1.3	15	22	178	4.9	6.1	4.9	16	3.5	4.5	1.4	1.5
26	3.2	39	8.1	360	6.0	213	4.7	9.3	3.5	2.2	1.3	1.3
27	7.0	4.8	6.4	24	4.9	155	4.6	7.8	8.9	2.1	60	1.3
28	1.8	3.9	5.7	13	4.6	19	4.5	7.0	4.8	6.0	202	1.3
29	1.4	5.6	5.3	8.9	---	11	4.1	7.0	3.0	1.9	5.2	1.0
30	1.3	13	5.7	7.9	---	8.8	4.1	6.2	3.0	1.7	2.7	.92
31	1.4	---	6.8	6.5	---	7.8	---	5.8	---	9.4	18	---
TOTAL	129.59	312.4	671.8	1127.6	145.5	782.0	228.0	687.9	288.8	360.0	380.9	130.02
MEAN	4.18	10.4	21.7	36.4	5.20	25.2	7.60	22.2	9.63	11.6	12.3	4.33
MAX	48	79	176	360	7.5	213	40	142	61	237	202	41
MIN	.65	1.2	3.2	4.5	3.8	4.0	4.1	3.6	3.0	1.7	1.2	.92
CFSM	.62	1.55	3.24	5.43	.78	3.76	1.13	3.31	1.44	1.73	1.84	.65
IN.	.72	1.73	3.73	6.26	.81	4.34	1.27	3.82	1.60	2.00	2.11	.72

CAL YR 1977 TOTAL 2833.52 MEAN 7.76 MAX 185 MIN .22 CFSM 1.16 IN 15.73
WTR YR 1978 TOTAL 5244.51 MEAN 14.4 MAX 360 MIN .65 CFSM 2.15 IN 29.11

01480100 LITTLE MILL CREEK AT ELSMERE, DE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
NOV						
01...	1.2	298	9.2	18.0	13.0	17.5
07...	52	162	7.5	16.0	14.0	8.8
DEC						
13...	4.0	260	8.0	11.0	2.0	14.0
MAR						
10...	5.8	210	7.4	6.0	4.0	--
APR						
10...	5.6	200	8.8	12.5	11.0	--
JUN						
02...	4.7	205	7.1	24.5	22.0	9.6
JUL						
03...	820	59	5.8	20.0	18.0	8.2
14...	3.0	240	8.6	21.0	21.0	14.8

01481500 BRANDYWINE CREEK AT WILMINGTON, DE

LOCATION.--Lat 39°46'09", long 75°34'25", New Castle County, Hydrologic Unit 02040205, on right bank in Rockford Park, 0.2 mi (0.3 km) downstream from Henry Clay Bridge, in Wilmington, and 4.2 mi (6.8 km) upstream from mouth.

DRAINAGE AREA.--314 mi² (813 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1946 to current year. Prior to December 1946 monthly discharge only, published in WSP 1302.

REVISED RECORDS.--WSP 1432: 1948, 1950.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 68.23 ft (20.797 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Some diurnal fluctuation at low flow caused by mills above station. Flow regulated since November 1973 by Marsh Creek Reservoir about 27 mi (43 km) upstream. No diversion just above station by plant of E. I. du Pont de Nemours & Co. since June 13, 1960.

AVERAGE DISCHARGE.--32 years, 474 ft³/s (13.42 m³/s), 20.50 in/yr (521 mm/yr), adjusted for storage since November 1973.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,000 ft³/s (821 m³/s) June 23, 1972, gage height, 15.49 ft (4.721 m), from rating curve extended above 18,000 ft³/s (510 m³/s); minimum, about 30 ft³/s (0.85 m³/s) Dec. 26, 1948, during period of ice effect; minimum daily, 56 ft³/s (1.59 m³/s) Aug. 23, 24, 1957.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,000 ft³/s (110 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 19	0530	7050	200	9.02	2.749	Mar. 27	0945	5620	159	8.20	2.500
Jan. 9	1700	5060	143	7.84	2.390	May 14	2100	4020	114	7.09	2.161
Jan. 26	1900	*17200	487	12.78	3.895	July 4	0700	5820	165	7.53	2.295
Mar. 15	0600	5780	164	8.30	2.530	Aug. 28	0545	6520	185	7.95	2.423

Minimum discharge, 159 ft³/s (4.50 m³/s) Oct. 5, 6, 8; minimum daily, 168 ft³/s (4.76 m³/s) Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	196	192	1680	691	1010	461	1070	420	509	318	399	792
2	208	198	906	670	960	418	1010	411	485	306	336	535
3	195	244	646	598	886	441	930	406	463	2020	304	396
4	180	390	552	513	826	440	980	426	707	3470	300	357
5	170	303	542	551	765	391	1060	607	522	890	367	324
6	168	264	796	553	788	393	895	529	496	693	464	289
7	173	1570	576	580	603	395	955	494	527	566	349	280
8	170	2690	430	700	810	408	846	474	639	489	301	289
9	430	898	438	3550	690	389	755	1070	524	408	267	294
10	563	623	376	1330	600	404	722	1180	444	383	335	271
11	262	825	338	895	600	446	706	689	417	379	295	256
12	214	568	322	795	620	788	676	580	389	342	363	268
13	197	428	381	802	630	1330	599	542	463	326	331	317
14	210	366	556	1970	700	2630	559	2690	427	311	320	244
15	579	340	1140	1010	572	4210	535	2190	370	343	259	246
16	444	320	648	737	547	2340	532	1560	354	344	246	258
17	692	347	500	813	563	1300	517	1540	355	351	240	272
18	460	504	2440	2670	552	1140	513	1680	371	328	228	243
19	309	361	4460	1390	543	1250	747	1270	354	297	218	558
20	287	315	1570	1090	534	1880	1200	1060	337	285	215	406
21	256	300	2520	1020	553	1510	849	959	642	280	207	269
22	234	309	1800	915	478	1690	698	850	1050	272	205	256
23	218	795	1190	804	457	1210	623	797	426	266	197	266
24	210	670	1070	753	471	1050	581	1160	359	247	193	248
25	202	474	1250	2210	477	932	508	1010	339	253	193	245
26	209	1540	1110	11200	491	2010	480	819	325	306	195	229
27	236	750	804	5110	482	4650	467	740	1440	259	614	225
28	241	511	768	1920	444	2090	468	732	660	1470	4230	229
29	205	464	697	1560	---	1550	440	701	383	363	969	218
30	189	551	687	1270	---	1270	443	668	349	297	478	220
31	193	---	701	1120	---	1160	---	539	---	342	508	---
TOTAL	8500	18110	31894	49790	17652	40576	21364	28793	15126	17204	14126	9300
MEAN	274	604	1029	1606	630	1309	712	929	504	555	456	310
MAX	692	2690	4460	11200	1010	4650	1200	2690	1440	3470	4230	792
MIN	168	192	322	513	444	389	440	406	325	247	193	218
(≠)	-1.0	+5.0	+1.5	+1.3	-8.5	+8.3	-10.3	-3.1	+3.7	+0.8	+5.9	-7.9
MEAN≠	273	609	1031	1607	622	1317	702	926	508	556	462	302
CFSM≠	.87	1.94	3.28	5.12	1.98	4.19	2.24	2.95	1.62	1.77	1.47	.96
IN≠	1.00	2.16	3.78	5.90	2.06	4.84	2.49	3.40	1.80	2.04	1.69	1.07

CAL YR 1977 TOTAL 160722 MEAN 440 MAX 4460 MIN 115 MEAN≠ 441 CFSM≠ 1.40 IN≠ 19.06
WTR YR 1978 TOTAL 272435 MEAN 746 MAX 11200 MIN 168 MEAN≠ 746 CFSM≠ 2.38 IN≠ 32.25

≠ Change in contents in Marsh Creek Reservoir, equivalent in cubic feet per second, furnished by Pennsylvania Department of Environmental Resources.

≠ Adjusted for change in reservoir contents.

01481500 BRANDYWINE CREEK AT WILMINGTON, DE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1947 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: November 1956 to September 1961, February 1971 to September 1973, October 1974 to current year.
SUSPENDED-SEDIMENT DISCHARGE: December 1946 to September 1961, July 1962 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum daily, 30.5°C July 18, 19, 1977; minimum daily, 0.0°C on many days during winter periods.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,700 mg/L Feb. 14, 1966; minimum daily mean, 1 mg/L on many days.
SEDIMENT LOADS: Maximum daily, 35,700 tons (32,400 tonnes), Feb. 14, 1971; minimum daily, less than 0.50 ton (0.45 tonne) on many days.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum daily, 28.0°C July 23; minimum daily, 0.0°C on many days during winter period.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 778 mg/L Jan. 26; minimum daily mean, 1 mg/L Apr. 17, 18.
SEDIMENT LOADS: Maximum daily, 24,000 tons (21,800 tonnes) Jan. 26; minimum daily, 1.4 tons (1.27 tonnes) April 17, 18.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT										
03...	1215	189	236	7.5	14.5	15.5	--	10.4	--	--
31...	1415	185	220	7.9	16.0	13.0	--	8.2	--	--
DEC										
01...	1225	1740	--	7.7	10.5	7.5	--	--	--	--
JAN										
03...	1320	620	221	7.6	3.0	.0	4	14.8	73	39
FEB										
01...	1230	1050	174	7.9	.0	.0	--	15.0	--	--
MAR										
01...	1105	473	210	7.2	4.5	1.0	15	14.4	70	32
APR										
03...	1235	920	172	7.3	2.0	5.5	--	12.2	--	--
MAY										
01...	1245	460	194	7.6	14.0	13.5	--	11.6	--	--
JUN										
01...	1500	511	184	7.7	25.5	24.0	10	8.4	74	37
JUL										
04...	1150	3900	100	7.0	17.0	16.0	--	8.0	--	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT									
03...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
DEC									
01...	--	--	--	--	--	--	--	--	--
JAN									
03...	18	6.8	11	2.4	41	34	23	18	.1
FEB									
01...	--	--	--	--	--	--	--	--	--
MAR									
01...	17	6.6	11	2.4	46	38	23	18	.1
APR									
03...	--	--	--	--	--	--	--	--	--
MAY									
01...	--	--	--	--	--	--	--	--	--
JUN									
01...	18	7.0	8.4	2.2	45	37	24	16	.1
JUL									
04...	--	--	--	--	--	--	--	--	--

01481500 BRANDYWINE CREEK AT WILMINGTON, DE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT									
03...	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--
DEC									
01...	--	--	--	--	--	--	--	--	--
JAN									
03...	13	130	113	2.7	.08	290	50	30	30
FEB									
01...	--	--	--	--	--	--	--	--	--
MAR									
01...	12	127	113	2.8	.10	--	40	--	40
APR									
03...	--	--	--	--	--	--	--	--	--
MAY									
01...	--	--	--	--	--	--	--	--	--
JUN									
01...	9.4	117	107	2.2	.12	480	80	60	40
JUL									
04...	--	--	--	--	--	--	--	--	--

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	11.5	7.5	3.0	.0	3.0	13.5	14.0	23.0	---	22.0	---
2	---	13.0	6.5	2.0	1.0	2.5	---	15.0	24.0	20.5	22.0	22.5
3	16.5	14.0	6.5	.5	1.0	.5	8.0	---	22.5	17.5	24.0	22.0
4	15.5	17.0	5.0	1.0	---	1.5	9.0	13.0	22.5	17.0	25.0	21.0
5	15.0	17.0	5.5	1.0	.0	.5	13.0	10.5	20.0	20.0	23.5	22.0
6	15.0	---	5.0	3.5	---	1.5	10.5	10.0	20.0	21.0	---	23.0
7	14.0	15.0	3.0	5.0	---	2.0	13.0	---	20.0	22.0	25.0	24.0
8	13.5	13.5	2.0	6.0	1.0	1.5	13.5	12.0	20.5	22.0	26.0	21.0
9	---	13.5	2.5	---	---	3.0	12.0	14.0	---	---	26.0	20.0
10	14.0	15.0	.5	---	1.0	4.0	12.0	15.5	21.5	24.5	25.5	---
11	14.0	11.5	---	---	.0	5.5	13.0	17.0	22.5	24.0	24.5	21.5
12	14.0	8.5	.0	---	.5	7.0	15.0	18.0	23.0	23.0	25.0	22.5
13	13.0	6.0	.5	.5	1.0	6.5	15.0	16.5	21.5	22.5	---	20.0
14	12.0	5.5	3.0	1.0	.0	5.5	14.0	---	24.0	21.0	26.5	19.5
15	10.5	6.5	6.0	.0	1.5	4.5	12.5	14.0	24.0	23.0	26.5	20.0
16	10.5	8.5	5.0	.0	1.5	7.0	---	13.0	20.0	---	27.0	---
17	10.0	11.0	4.0	---	3.0	4.0	11.5	15.0	---	23.0	27.5	20.5
18	8.0	9.5	---	---	3.0	---	12.0	15.0	21.0	23.5	27.0	23.0
19	11.5	8.0	3.0	1.5	---	7.0	---	17.0	23.5	24.0	27.0	21.0
20	11.5	---	5.0	---	---	6.0	---	19.0	24.5	25.5	25.0	21.0
21	12.0	7.5	6.0	.5	1.5	9.0	12.0	20.0	24.5	26.5	24.0	22.0
22	12.5	8.0	5.0	---	1.0	9.0	13.0	18.5	23.0	27.0	24.5	21.0
23	12.0	8.0	4.0	---	1.0	10.0	13.5	18.5	23.5	28.0	24.5	18.0
24	13.0	8.0	5.0	1.5	1.5	10.0	14.5	15.5	22.5	27.5	---	---
25	12.0	7.0	---	2.5	4.0	6.5	15.0	18.0	---	25.0	23.0	19.0
26	12.0	6.5	2.0	2.0	4.0	---	14.0	18.5	22.0	24.0	23.0	18.0
27	14.0	4.0	---	.5	3.5	6.0	11.5	18.5	21.5	24.0	21.0	17.0
28	16.0	5.0	.0	---	2.0	9.5	14.0	18.5	24.0	22.5	21.0	17.0
29	---	4.0	.0	---	---	10.0	15.0	20.5	25.0	23.0	24.0	16.0
30	12.5	5.0	2.0	1.5	---	10.0	---	21.5	25.5	23.5	24.0	15.5
31	11.5	---	4.0	.0	---	10.0	---	22.0	---	23.0	24.0	---

01481500 BRANDYWINE CREEK AT WILMINGTON, DE--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12	6.4	7	3.6	149	735	5	9.3	11	30	11	14
2	14	7.9	9	4.8	62	152	4	7.2	11	29	10	11
3	17	9.0	15	9.9	21	37	5	8.1	9	22	10	12
4	12	5.8	24	25	11	16	4	5.5	10	22	9	11
5	11	5.0	10	8.2	9	13	5	7.4	11	23	6	6.3
6	13	5.9	8	5.7	24	52	5	7.5	10	21	6	6.4
7	14	6.5	356	1770	17	26	6	9.4	9	15	7	7.5
8	13	6.0	682	5800	8	9.3	18	34	7	15	7	7.7
9	40	46	55	133	6	7.1	590	6350	6	11	6	6.3
10	34	52	17	29	5	5.1	95	341	5	8.1	5	5.5
11	20	14	39	87	5	4.6	18	43	7	11	7	8.4
12	14	8.1	20	31	5	4.3	14	30	9	15	50	106
13	12	6.4	12	14	5	5.1	17	37	12	20	165	745
14	17	9.6	7	6.9	14	33	170	1030	13	25	452	4210
15	27	42	4	3.7	94	298	27	74	9	14	525	6350
16	21	25	5	4.3	18	31	9	18	8	12	245	1550
17	110	206	10	9.4	9	12	14	31	6	9.1	44	154
18	46	57	23	31	227	2520	240	1930	7	10	21	65
19	18	15	12	12	315	4460	44	165	6	8.8	103	513
20	15	12	9	7.7	47	199	18	53	6	8.7	254	1460
21	12	8.3	6	4.9	144	1150	14	39	5	7.5	81	330
22	10	6.3	7	5.8	55	267	10	25	6	7.7	71	324
23	10	5.9	44	112	17	55	8	17	9	11	24	78
24	8	4.5	31	56	10	29	7	14	9	11	15	43
25	8	4.4	14	18	32	108	323	3830	8	10	13	33
26	11	6.2	210	996	18	54	778	24000	8	11	336	3150
27	13	8.3	61	124	8	17	195	2690	8	10	466	6110
28	11	7.2	20	28	5	10	60	311	10	12	81	457
29	9	5.0	9	11	6	11	32	135	---	---	31	130
30	8	4.1	9	13	6	11	22	75	---	---	17	58
31	7	3.6	---	---	6	11	13	39	---	---	10	31
TOTAL	---	609.4	---	9364.9	---	10342.5	---	41365.4	---	409.9	---	25993.1

DAY	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8	23	4	4.5	14	19	19	16	37	40	40	86
2	6	16	5	5.5	14	18	17	14	25	23	18	26
3	4	10	6	6.6	14	18	300	3760	23	19	14	15
4	3	7.9	7	8.1	20	38	205	1920	18	15	12	12
5	18	52	9	15	14	20	29	70	26	26	9	7.9
6	8	19	4	5.7	15	20	19	36	34	43	6	4.7
7	7	18	3	4.0	19	27	15	23	18	17	5	3.8
8	5	11	4	5.1	27	47	14	18	17	14	8	6.2
9	3	6.1	30	102	19	27	12	13	17	12	7	5.6
10	2	3.9	118	425	14	17	10	10	34	31	6	4.4
11	5	9.5	17	32	13	15	8	8.2	19	15	5	3.5
12	8	15	11	17	15	16	7	6.5	49	48	8	5.8
13	4	6.5	10	15	17	21	9	7.9	25	22	13	11
14	4	6.0	339	3030	14	16	7	5.9	19	16	6	4.0
15	3	4.3	153	905	10	10	7	6.5	19	13	5	3.3
16	2	2.9	63	265	13	12	7	6.5	14	9.3	6	4.2
17	1	1.4	70	291	10	9.6	7	6.6	10	6.5	6	4.4
18	1	1.4	92	417	7	7.0	6	5.3	9	5.5	7	4.6
19	10	20	31	106	6	5.7	6	4.8	9	5.3	42	70
20	40	135	18	52	5	4.5	5	3.8	8	4.6	24	26
21	6	14	18	47	60	104	5	3.8	9	5.0	17	12
22	4	7.5	17	39	210	595	4	2.9	8	4.4	10	6.9
23	2	3.4	15	32	41	47	6	4.3	6	3.2	9	6.5
24	2	3.1	57	179	19	18	4	2.7	6	3.1	9	6.0
25	3	4.1	21	57	16	15	6	4.1	7	3.6	9	6.0
26	4	5.2	14	31	14	12	9	7.4	8	4.2	9	5.6
27	4	5.0	13	26	278	1960	10	7.0	108	631	11	6.7
28	3	3.8	14	28	121	216	340	1870	586	7610	9	5.6
29	5	5.9	13	25	46	48	57	56	38	99	8	4.7
30	5	6.0	13	23	24	23	21	17	14	18	7	4.2
31	---	---	13	19	---	---	26	24	13	18	---	---
TOTAL	---	426.9	---	6217.5	---	3405.8	---	7941.2	---	8784.7	---	372.6

TOTAL LOAD FOR YEAR: 115233.9 TONS.

01482100 DELAWARE RIVER AT DELAWARE MEMORIAL BRIDGE, NEAR WILMINGTON, DE

LOCATION.--Lat 39°41'21", long 75°31'19", New Castle County, Hydrologic Unit 02040205, at tidal-gaging station located on channel side of west tower of south bridge between Pigeon Point, Del., and Deepwater Point, N. J.

DRAINAGE AREA.--11,030 mi² (28,570 km²).

PERIOD OF RECORD.--July 1955 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1963 to current year.
pH: January 1968 to current year.
WATER TEMPERATURES: October 1956 to current year.
DISSOLVED OXYGEN: November 1962 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 12,700 micromhos Nov. 13, 1966; minimum, 100 micromhos on many days.
pH: Maximum, 9.3 Nov. 10-11, 13, 1970; minimum, 4.2 Nov. 6, 1969.
WATER TEMPERATURES: Maximum, 31.0°C Aug. 9, 1968; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum, 13.5 mg/L Dec. 29, 1969; minimum, 0.0 mg/L on many days during summer periods.

NOTE: For data on this station see U.S. Geological Survey Water-Data Report PA-78-1. Data for this station will appear in U.S. Geological Survey Water-Data Report MD-DE-79-1.

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DE

LOCATION.--Lat 39°30'03", long 75°34'07", New Castle County, Hydrologic Unit 02040205, water-quality recorder located on platform about 0.4 mi (0.6 km) downstream from Reedy Island near Port Penn.

DRAINAGE AREA.--11,200 mi² (29,100 km²), approximately.

PERIOD OF RECORD.--October 1963 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1963 to current year.
pH: February 1970 to current year.
WATER TEMPERATURES: February 1970 to current year.
DISSOLVED OXYGEN: February 1970 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 35,400 micromhos Nov. 7, 1963; minimum, 100 micromhos on several days during August 1969, April 1970, and February 1974.
pH: Maximum, 8.8 Aug. 29, Sept. 2, 1973; minimum, 5.4 Dec. 31, 1972.
WATER TEMPERATURES: Maximum, 31.5°C July 21, 1977; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum, 13.7 mg/L Feb. 18, 19, 1973; minimum, 0.3 mg/L Sept. 16, 17, 1971.

NOTE: For data on this station see U.S. Geological Survey Water-Data Report PA-78-1. Data for this station will appear in U.S. Geological Survey Water-Data Report MD-DE-79-1.

01483200 BLACKBIRD CREEK AT BLACKBIRD, DE

LOCATION.--Lat 39°21'58", long 75°40'10", New Castle County, Hydrologic Unit 02040205, on right bank 15 ft (5 m) downstream from highway bridge, 0.5 mi (0.8 km) upstream from Barlow Branch, 0.6 mi (1.0 km) southwest of Blackbird, 5.6 mi (9.0 km) northwest of Smyrna, and 13.8 mi (22.2 km) upstream from mouth.

DRAINAGE AREA.--3.85 mi² (9.97 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Annual maximum, water years 1952-56, and occasional low-flow measurements, water years 1952-53, 1955-56. October 1956 to current year.

GAGE.--Water-stage recorder. Concrete control since May 23, 1968. Datum of gage is 18.89 ft (5.758 m) National Geodetic Vertical Datum of 1929. Mar. 5, 1951, to Oct. 16, 1956, nonrecording gage and crest-stage gage at site 15 ft (5 m) upstream at same datum.

REMARKS.--Water-discharge records good.

AVERAGE DISCHARGE.--22 years, 4.75 ft³/s (0.135 m³/s), 16.75 in/yr (425 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 712 ft³/s (20.2 m³/s) June 22, 1972, gage height, 5.04 ft (1.536 m), from rating curve extended above 200 ft³/s (5.66 m³/s) on basis of Type III culvert measurement of peak flow; no flow at times during 1964, 1965, 1966, 1969.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 50 ft³/s (1.4 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 18	2215	92	2.61	2.55	0.777	Mar. 15	0045	65	1.84	2.34	0.713
Jan. 11	0930	50	1.42	2.19	0.668	Mar. 26	1930	148	4.19	2.89	0.881
Jan. 18	0645	96	2.72	2.58	0.786	May 25	0015	105	2.97	2.64	0.805
Jan. 26	1015	*197	5.58	3.16	0.963	July 3	2245	128	3.62	2.78	0.847

Minimum discharge, 0.11 ft³/s (0.003 m³/s) Oct. 1, gage height, 0.69 ft (0.210 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.24	.91	20	8.5	8.3	4.9	11	4.7	5.2	1.5	11	3.1
2	.28	1.0	10	6.7	8.0	4.6	10	4.6	4.5	1.7	5.4	1.6
3	.21	2.0	5.1	5.6	7.4	4.8	9.3	4.5	4.5	39	3.4	1.4
4	.15	4.2	4.0	4.7	7.1	5.1	10	8.7	5.0	39	2.4	1.3
5	.14	2.0	5.5	5.0	6.5	4.8	9.7	19	4.3	7.6	2.9	1.1
6	.15	2.1	7.4	5.6	6.4	4.6	8.5	9.0	4.9	4.5	5.3	.97
7	.20	19	4.5	5.8	6.7	4.6	9.1	7.1	4.2	3.2	23	.93
8	.22	13	3.5	8.1	8.3	4.8	8.2	6.8	4.5	2.9	4.2	.89
9	2.5	5.2	5.1	24	7.7	5.0	7.4	24	4.3	2.5	2.5	.99
10	2.4	3.1	4.1	11	7.1	7.4	7.2	16	3.3	2.5	4.6	.88
11	.84	2.8	3.0	7.0	6.7	12	7.2	8.2	3.0	2.2	2.4	.84
12	.52	2.4	2.7	5.2	6.7	18	7.3	6.7	2.8	1.9	2.4	1.4
13	.45	2.1	3.6	7.5	6.5	25	6.8	6.3	5.6	1.8	2.8	11
14	2.4	1.8	7.1	26	6.7	36	6.1	12	6.5	1.9	2.0	2.1
15	8.6	1.8	16	16	6.4	33	5.8	16	3.0	2.3	1.7	1.4
16	2.7	1.8	8.3	9.1	6.0	16	5.7	20	2.7	4.3	1.6	1.4
17	1.8	7.1	5.0	11	6.1	17	5.8	14	2.7	4.3	1.5	1.1
18	1.4	6.0	36	54	6.3	17	5.7	15	2.8	2.4	1.3	1.1
19	1.1	3.2	39	19	6.2	13	13	8.8	2.4	1.9	1.1	1.1
20	.95	2.6	16	17	5.5	11	17	6.9	2.3	1.8	1.1	1.1
21	.82	2.5	18	19	5.4	9.2	9.6	5.9	4.6	1.7	.96	1.0
22	.79	2.6	14	13	5.1	9.9	7.2	4.9	23	1.6	.92	1.1
23	.69	8.0	9.1	8.9	4.8	8.4	6.3	4.8	4.4	1.5	.88	1.4
24	.70	5.9	7.8	7.9	4.8	7.5	6.0	41	2.7	1.3	.85	1.1
25	.67	4.5	9.6	48	5.1	7.0	5.7	40	2.3	3.2	.85	1.1
26	1.1	13	8.0	132	5.7	58	5.5	12	2.2	2.5	.97	.89
27	3.0	6.8	5.8	27	5.6	104	5.8	8.3	2.6	1.7	1.0	.91
28	2.0	3.9	5.3	15	4.9	29	5.6	7.6	2.9	1.7	3.5	.94
29	1.2	3.7	4.8	12	---	17	5.0	7.1	1.9	1.7	1.5	.76
30	1.0	5.2	5.6	11	---	14	4.9	6.5	1.7	1.4	1.1	.85
31	.95	---	11	9.6	---	12	---	5.7	---	2.9	9.2	---
TOTAL	40.17	140.21	304.9	560.2	178.0	524.6	232.4	362.1	126.8	150.4	104.33	45.75
MEAN	1.30	4.67	9.84	18.1	6.36	16.9	7.75	11.7	4.23	4.85	3.37	1.53
MAX	8.6	19	39	132	8.3	104	17	41	23	39	23	11
MIN	.14	.91	2.7	4.7	4.8	4.6	4.9	4.5	1.7	1.3	.85	.76
CFSM	.34	1.21	2.56	4.70	1.65	4.39	2.01	3.04	1.10	1.26	.88	.40
IN.	.39	1.35	2.95	5.41	1.72	5.07	2.24	3.50	1.22	1.45	1.01	.44

CAL YR 1977 TOTAL 1027.47 MEAN 2.81 MAX 39 MIN .08 CFSM .73 IN 9.93
WTR YR 1978 TOTAL 2769.86 MEAN 7.59 MAX 132 MIN .14 CFSM 1.97 IN 26.76

01483200 BLACKBIRD CREEK AT BLACKBIRD, DE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)
NOV						
07...	20	122	6.6	18.0	14.5	9.3
DEC						
09...	5.0	--	7.2	5.0	3.5	8.6
JAN						
27...	24	80	6.5	2.5	2.0	6.2
FEB						
27...	4.9	85	6.6	2.0	1.5	16.0
APR						
11...	7.1	73	7.1	16.0	15.5	--
MAY						
31...	6.4	75	6.5	26.0	24.0	8.1
JUL						
14...	1.9	98	6.6	22.0	21.0	11.2
AUG						
25...	.79	93	8.7	25.0	26.5	10.9

01483700 ST. JONES RIVER AT DOVER, DE

LOCATION.--Lat 39°09'49", long 75°31'10", Kent County, Hydrologic Unit 02040207, on left bank 150 ft (46 m) upstream from Division Street Bridge in Dover, 1,950 ft (594 m) downstream from Silver Lake, and 12.5 mi (20.1 km) upstream from mouth.

DRAINAGE AREA.--31.9 mi² (82.6 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1958 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 0.50 ft (0.152 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Flow affected by Silver Lake.

AVERAGE DISCHARGE.--20 years, 36.6 ft³/s (1.037 m³/s), 15.58 in/yr (396 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,900 ft³/s (53.8 m³/s) Sept. 13, 1960, gage height, 9.45 ft (2.880 m), from floodmark; no flow at times in 1959, 1961, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 768 ft³/s (21.7 m³/s) Mar. 27, gage height, 6.73 ft (2.051 m); minimum, 0.94 ft³/s (0.027 m³/s) Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	8.2	86	67	58	32	76	27	24	7.3	116	23
2	4.9	8.7	98	59	53	30	65	24	21	6.8	176	16
3	3.3	16	73	48	45	32	59	23	42	109	152	14
4	1.2	24	52	35	44	32	59	38	98	235	86	13
5	1.0	23	48	35	40	31	61	104	73	144	56	9.8
6	1.2	23	53	34	45	29	53	111	33	51	81	8.7
7	1.4	82	53	38	34	29	55	68	25	22	146	8.7
8	2.2	111	41	46	40	31	53	49	25	15	128	8.7
9	31	79	44	132	47	31	48	87	26	13	65	8.7
10	24	48	41	149	45	52	43	170	21	12	40	7.3
11	12	29	37	118	41	89	44	148	16	11	48	6.8
12	7.7	23	31	71	39	130	43	86	15	8.2	92	8.2
13	4.9	19	31	68	39	168	41	53	17	6.8	98	13
14	13	16	48	174	40	280	38	56	16	8.2	74	9.2
15	24	16	88	220	40	499	34	76	13	10	43	8.2
16	17	16	106	140	39	286	32	115	13	13	32	8.2
17	16	32	76	127	38	196	31	97	12	17	27	6.8
18	9.2	37	144	311	39	152	31	76	14	14	22	7.3
19	8.7	33	391	282	39	113	61	56	13	10	18	8.2
20	8.2	25	326	331	37	84	91	43	11	8.2	16	7.3
21	5.2	22	190	494	35	71	88	34	13	8.2	14	6.8
22	5.2	25	152	243	35	68	62	29	25	8.2	13	7.3
23	4.9	49	113	138	31	65	45	25	20	7.3	13	7.3
24	4.0	61	79	98	31	59	37	70	13	5.9	12	6.8
25	4.3	53	70	128	33	50	33	102	9.2	17	10	6.8
26	12	53	65	462	35	149	32	70	8.7	23	13	5.6
27	32	59	53	371	37	663	34	43	20	15	13	5.2
28	33	49	44	165	34	489	34	32	23	15	23	5.9
29	27	38	37	113	---	211	30	29	16	15	20	4.3
30	15	39	38	81	---	126	29	28	9.8	9.2	13	4.0
31	9.2	---	56	67	---	91	---	27	---	25	25	---
TOTAL	346.0	1116.9	2764	4845	1113	4368	1442	1996	685.7	870.3	1685	261.1
MEAN	11.2	37.2	89.2	156	39.8	141	48.1	64.4	22.9	28.1	54.4	8.70
MAX	33	111	391	494	58	663	91	170	98	235	176	23
MIN	1.0	8.2	31	34	31	29	29	23	8.7	5.9	10	4.0
CFSM	.35	1.17	2.80	4.89	1.25	4.42	1.51	2.02	.72	.88	1.71	.27
IN.	.40	1.30	3.22	5.65	1.30	5.09	1.68	2.33	.80	1.01	1.96	.30

CAL YR 1977 TOTAL 8666.65 MEAN 23.7 MAX 391 MIN .39 CFSM .74 IN 10.11
WTR YR 1978 TOTAL 21493.00 MEAN 58.9 MAX 663 MIN 1.0 CFSM 1.85 IN 25.06

01483700 ST. JONES RIVER AT DOVER, DE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965-72, 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT										
03...	1025	3.3	257	7.6	14.0	18.5	--	7.4	--	--
NOV										
01...	1340	7.3	259	7.7	17.5	15.5	--	10.6	--	--
DEC										
01...	1410	79	190	7.8	14.0	7.0	--	11.9	--	--
JAN										
03...	1110	46	137	7.9	-2.0	3.0	60	11.7	37	22
FEB										
02...	1210	55	85	6.3	-2.0	.0	--	13.4	--	--
MAR										
01...	0950	34	171	7.0	-3.0	4.5	40	12.0	38	24
15...	1455	503	90	6.7	11.5	7.0	--	9.7	--	--
APR										
03...	1540	56	89	6.6	5.5	10.0	--	9.0	--	--
MAY										
02...	1200	25	116	7.1	10.5	14.5	--	13.4	--	--
JUN										
01...	1120	25	146	6.5	25.0	24.0	140	24.0	37	16
JUL										
05...	1315	130	163	7.0	22.0	20.5	--	7.0	--	--
AUG										
01...	0945	82	142	--	23.0	24.0	--	--	--	--
SEP										
05...	1035	11	147	7.4	23.0	24.5	--	--	--	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT									
03...	--	--	--	--	--	--	--	--	--
NOV									
01...	--	--	--	--	--	--	--	--	--
DEC									
01...	--	--	--	--	--	--	--	--	--
JAN									
03...	10	3.0	7.5	2.5	19	16	24	9.1	.0
FEB									
02...	--	--	--	--	--	--	--	--	--
MAR									
01...	10	3.2	12	2.2	17	14	33	11	.1
15...	--	--	--	--	--	--	--	--	--
APR									
03...	--	--	--	--	--	--	--	--	--
MAY									
02...	--	--	--	--	--	--	--	--	--
JUN									
01...	10	2.8	7.4	2.4	25	21	21	11	.1
JUL									
05...	--	--	--	--	--	--	--	--	--
AUG									
01...	--	--	--	--	--	--	--	--	--
SEP									
05...	--	--	--	--	--	--	--	--	--

01483700 ST. JONES RIVER AT DOVER, DE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT									
03...	--	--	--	--	--	--	--	--	--
NOV									
01...	--	--	--	--	--	--	--	--	--
DEC									
01...	--	--	--	--	--	--	--	--	--
JAN									
03...	16	89	82	1.1	.05	540	430	60	60
FEB									
02...	--	--	--	--	--	--	--	--	--
MAR									
01...	18	115	98	1.5	.05	540	450	100	90
15...	--	--	--	--	--	--	--	--	--
APR									
03...	--	--	--	--	--	--	--	--	--
MAY									
02...	--	--	--	--	--	--	--	--	--
JUN									
01...	14	102	830	.44	.12	1600	1600	80	80
JUL									
05...	--	--	--	--	--	--	--	--	--
AUG									
01...	--	--	--	--	--	--	--	--	--
SEP									
05...	--	--	--	--	--	--	--	--	--

01483700 ST. JONES RIVER AT DOVER, DE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 03...	--	--	--	--	--	--	--	--	--
NOV 01...	--	--	--	--	--	--	--	--	--
DEC 01...	--	--	--	--	--	--	--	--	--
JAN 03...	16	89	82	1.1	.05	540	430	60	60
FEB 02...	--	--	--	--	--	--	--	--	--
MAR 01...	18	115	98	1.5	.05	540	450	100	90
15...	--	--	--	--	--	--	--	--	--
APR 03...	--	--	--	--	--	--	--	--	--
MAY 02...	--	--	--	--	--	--	--	--	--
JUN 01...	14	102	830	.44	.12	1600	1600	80	80
JUL 05...	--	--	--	--	--	--	--	--	--
AUG 01...	--	--	--	--	--	--	--	--	--
SEP 05...	--	--	--	--	--	--	--	--	--

01484000 MURDERKILL RIVER NEAR FELTON, DE

LOCATION.--Lat 38°58'33", long 75°34'03", Kent County, Hydrologic Unit 02040207, on left bank 30 ft (9 m) downstream from northbound lane of bridge on U.S. Highway 13, 400 ft (122 m) downstream from Black Swamp Creek, 1.3 mi (2.1 km) upstream from Killen Pond, 2.2 mi (3.5 km) south of Felton, and 17.6 mi (28.3 km) upstream from mouth.

DRAINAGE AREA.--13.6 mi² (35.2 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1931 to October 1933. Monthly discharge only for July to September 1931, published in WSP 1302. Annual maximum, water years 1952-60, and occasional low-flow measurements, water years 1952-53, 1955-57, 1959-60. June 1960 to September 1978 (discontinued).

REVISED RECORDS.--WSP 1432: 1932.

GAGE.--Water-stage recorder. Datum of gage is 21.87 ft (6.666 m) National Geodetic Vertical Datum of 1929. July 1931 to October 1933, nonrecording gage at bridge 200 ft (61 m) upstream at datum 2.00 ft (0.610 m) higher. March 1951 to May 1960, nonrecording gage and crest-stage gage at bridge 200 ft (61 m) upstream at datum 2.00 ft (0.610 m) higher.

REMARKS.--Water-discharge records good.

AVERAGE DISCHARGE.--20 years (water years 1932-33, 1961-78), 18.8 ft³/s (0.532 m³/s), 18.77 in/yr (477 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,090 ft³/s (59.2 m³/s) Aug. 4, 1967, gage height, 8.83 ft (2.691 m); minimum, 0.80 ft³/s (0.023 m³/s) Aug. 28, Sept. 11, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 4, 1967, is believed to have been the highest since that of 1935, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 130 ft³/s (3.6 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 19	0300	252	7.14	5.37	1.637
Jan. 9	1400	214	6.06	5.18	1.579
Jan. 14	0930	216	6.12	5.19	1.582
Jan. 18	0700	283	8.01	5.51	1.679
Jan. 20	2030	346	9.80	5.73	1.747
Jan. 26	1300	216	6.12	5.19	1.582
Mar. 14	2330	432	12.2	5.98	1.823
Mar. 27	1100	*494	14.0	6.15	1.875
July 4	0015	174	4.93	4.96	1.512

Minimum discharge, 2.3 ft³/s (0.065 m³/s), Oct. 3, 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	5.8	39	40	22	16	33	16	15	7.0	33	6.5
2	2.6	5.8	27	31	22	15	28	15	14	7.8	23	5.7
3	2.4	6.2	21	25	21	16	25	15	20	68	31	5.1
4	2.4	6.8	19	21	20	16	31	28	27	98	14	4.8
5	2.5	6.2	19	21	19	15	28	80	17	22	18	4.6
6	2.5	8.1	24	21	20	15	24	37	15	14	51	4.4
7	2.6	51	20	22	22	14	41	28	14	12	39	4.2
8	2.6	22	17	27	20	15	30	24	16	10	17	4.6
9	8.7	13	20	148	20	16	24	48	15	9.0	13	4.9
10	5.0	12	19	86	19	36	22	45	13	8.3	12	3.9
11	3.3	11	16	33	18	89	22	26	12	7.9	10	4.1
12	3.2	10	15	26	18	107	21	21	11	7.2	10	4.0
13	2.8	9.6	16	35	18	139	20	20	12	6.6	25	4.6
14	4.7	9.4	20	170	19	208	19	33	11	6.8	15	4.0
15	8.1	9.4	50	101	18	293	18	60	10	7.5	11	4.1
16	4.4	9.2	29	44	18	135	17	59	10	8.2	10	4.0
17	7.2	12	23	42	18	125	17	45	10	10	8.7	3.9
18	4.9	12	76	220	18	70	17	29	10	7.3	7.3	3.8
19	4.2	11	210	100	18	47	34	23	9.4	6.3	6.7	3.7
20	3.7	9.8	107	174	17	37	34	20	9.3	5.9	6.3	3.9
21	3.7	9.7	95	205	17	33	24	18	9.5	5.7	5.8	3.7
22	3.6	14	79	86	17	31	21	17	14	5.3	5.6	3.9
23	3.3	33	44	49	16	28	19	16	10	4.8	5.2	4.1
24	3.3	25	35	39	16	25	18	39	9.3	4.2	5.4	3.9
25	3.1	18	35	58	16	23	18	33	8.9	13	5.7	3.7
26	5.2	23	31	189	17	104	17	22	8.6	8.7	5.9	3.4
27	11	18	24	105	16	356	19	20	8.6	6.8	5.6	3.8
28	6.9	15	22	49	16	183	20	19	8.9	6.3	5.3	3.6
29	6.2	15	20	34	---	83	18	18	8.2	5.8	5.2	3.5
30	6.0	17	22	28	---	47	16	17	7.5	5.4	4.9	3.6
31	5.8	---	48	25	---	37	---	16	---	9.7	7.6	---
TOTAL	138.6	428.0	1242	2254	516	2374	695	907	364.2	405.5	423.2	126.0
MEAN	4.47	14.3	40.1	72.7	18.4	76.6	23.2	29.3	12.1	13.1	13.7	4.20
MAX	11	51	210	220	22	356	41	80	27	98	51	6.5
MIN	2.4	5.8	15	21	16	14	16	15	7.5	4.2	4.9	3.4
CFSM	.33	1.05	2.95	5.35	1.35	5.63	1.71	2.15	.89	.96	1.01	.31
IN.	.38	1.17	3.40	6.16	1.41	6.49	1.90	2.48	1.00	1.11	1.16	.34

CAL YR 1977 TOTAL 3890.5 MEAN 10.7 MAX 210 MIN 1.5 CFSM .79 IN 10.64
WTR YR 1978 TOTAL 9873.5 MEAN 27.1 MAX 356 MIN 2.4 CFSM 1.99 IN 27.00

01484000 MURDERKILL RIVER NEAR FELTON, DE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
NOV						
03...	6.2	405	7.0	18.0	16.5	5.0
15...	9.6	--	7.9	16.0	9.5	--
DEC						
06...	24	--	6.2	5.5	9.5	9.0
JAN						
18...	270	48	6.7	.5	4.5	10.6
MAR						
07...	14	158	7.4	3.5	4.5	11.5
APR						
12...	22	--	6.7	20.5	16.0	8.0
MAY						
26...	22	151	6.2	24.5	17.0	--
JUL						
14...	7.1	212	6.9	24.0	18.0	--
AUG						
17...	8.2	176	7.2	29.0	23.0	--
25...	5.5	241	7.6	25.0	20.5	--

01484100 BEAVERDAM BRANCH AT HOUSTON, DE

LOCATION.--Lat 38°54'20", long 75°30'49", Kent County, Hydrologic Unit 02040207, on left bank 15 ft (5 m) upstream from bridge on State Highway 384, 0.8 mi (1.3 km) south of Houston, and 1.2 mi (1.9 km) upstream from Blairs Pond and mouth.

DRAINAGE AREA.--2.83 mi² (7.33 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1958 to current year.

GAGE.--Water-stage recorder and timber control. Datum of gage is 35.67 ft (10.872 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for August, which are fair. Diversion for irrigation of about 150 acres (60.7 ha) above station during some years.

AVERAGE DISCHARGE.--20 years, 3.71 ft³/s (0.105 m³/s), 17.80 in/yr (452 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 176 ft³/s (4.98 m³/s) Sept. 12, 1960, gage height, 5.55 ft (1.692 m); no flow July 28, 1977 (result of pumpage for irrigation).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 30 ft³/s (0.8 m³/s) and maximum (*):

Date	Time	Discharge		Gage height		Date	Time	Discharge		Gage height	
		(ft³/s)	(m³/s)	(ft)	(m)			(ft³/s)	(m³/s)	(ft)	(m)
Dec. 18	2215	31	0.878	3.17	0.966	Jan. 20	1900	55	1.56	3.69	1.125
Jan. 9	1045	34	0.963	3.24	0.988	Jan. 26	1215	36	1.02	3.30	1.006
Jan. 14	0615	43	1.22	3.43	1.045	Mar. 15	0100	49	1.39	3.56	1.085
Jan. 18	0530	41	1.16	3.40	1.036	Mar. 27	1330	*57	1.61	3.73	1.137

Minimum discharge, 0.40 ft³/s (0.011 m³/s) Oct. 26, 31, Nov. 1

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.48	.43	2.9	4.9	5.9	4.1	7.7	5.1	5.4	2.3	2.1	3.6
2	.48	.43	2.3	4.5	5.8	4.0	7.0	5.1	4.9	2.5	2.6	2.5
3	.46	.52	2.3	4.1	5.6	4.2	6.6	5.1	4.9	5.8	2.6	2.3
4	.46	.52	2.2	3.9	5.4	4.1	6.8	8.3	5.6	4.5	2.3	2.2
5	.45	.47	2.4	3.9	5.3	4.0	6.5	11	4.9	3.3	2.2	2.1
6	.47	.64	2.5	3.9	5.4	4.0	6.2	7.8	4.7	2.9	4.2	2.1
7	.45	2.6	2.4	3.9	5.3	3.9	9.4	7.0	4.6	2.8	5.8	2.0
8	.44	1.1	2.2	4.2	5.1	3.9	7.5	6.9	4.7	2.7	4.0	2.0
9	.74	.91	2.5	22	5.1	4.0	6.7	12	4.4	2.6	3.3	2.0
10	.57	.92	2.3	7.0	5.0	6.1	6.3	10	4.0	2.5	3.0	1.9
11	.50	.87	2.2	5.0	4.9	11	6.2	7.5	4.0	2.5	2.8	1.9
12	.46	.83	2.3	4.7	4.8	17	5.9	6.8	3.8	2.2	2.7	1.9
13	.43	.90	2.3	6.5	4.8	19	5.8	7.0	3.8	2.0	2.6	1.9
14	.55	.90	2.7	29	4.8	21	5.5	8.2	3.8	2.2	3.0	1.8
15	.63	.90	3.8	10	4.6	32	5.4	13	3.8	2.3	3.0	1.9
16	.52	.90	2.8	6.5	4.6	18	5.3	11	3.7	2.4	2.8	1.8
17	.56	1.0	2.7	7.2	4.6	23	5.5	8.3	3.7	2.5	2.8	1.7
18	.53	1.0	11	28	4.7	11	5.4	7.0	3.5	2.2	2.7	1.7
19	.50	.95	15	10	4.6	8.9	7.3	6.0	3.5	1.8	2.5	1.7
20	.47	.97	5.7	30	4.5	8.4	7.1	5.9	3.4	1.9	2.4	1.7
21	.47	1.0	7.8	27	4.4	7.9	6.2	5.8	3.4	1.9	2.4	1.6
22	.47	1.4	5.9	10	4.4	7.3	5.7	5.8	3.5	1.2	2.3	1.6
23	.44	3.1	4.8	7.9	4.3	6.8	5.6	8.0	3.3	1.2	2.3	1.6
24	.46	2.1	4.6	7.1	4.3	6.5	5.5	11	3.1	1.5	2.2	1.6
25	.46	1.9	4.6	11	4.3	6.1	5.6	11	3.0	2.8	2.2	1.6
26	.45	2.1	4.3	29	4.3	16	5.5	7.0	2.9	2.5	2.2	1.5
27	.58	1.9	4.1	12	4.1	42	6.0	6.6	2.9	2.2	2.1	1.6
28	.49	1.9	4.0	8.3	4.1	22	5.8	6.2	2.9	2.1	1.8	1.5
29	.45	1.9	3.9	7.2	---	12	5.5	6.2	2.6	2.1	1.7	1.5
30	.43	2.0	4.0	6.6	---	9.3	5.3	6.0	2.5	2.0	1.8	1.5
31	.43	---	5.9	6.3	---	8.3	---	5.6	---	2.2	2.7	---
TOTAL	15.28	37.06	128.4	331.6	135.0	355.8	186.8	238.2	115.2	75.6	83.1	56.3
MEAN	.49	1.24	4.14	10.7	4.82	11.5	6.23	7.68	3.84	2.44	2.68	1.88
MAX	.74	3.1	15	30	5.9	42	9.4	13	5.6	5.8	5.8	3.6
MIN	.43	.43	2.2	3.9	4.1	3.9	5.3	5.1	2.5	1.2	1.7	1.5
CFSM	.17	.44	1.46	3.78	1.70	4.06	2.20	2.71	1.36	.86	.95	.66
IN.	.20	.49	1.69	4.36	1.77	4.68	2.45	3.13	1.51	.99	1.09	.74

CAL YR 1977 TOTAL 715.34 MEAN 1.96 MAX 15 MIN .00 CFSM .69 IN 9.40
WTR YR 1978 TOTAL 1758.34 MEAN 4.82 MAX 42 MIN .43 CFSM 1.70 IN 23.10

01484100 BEAVERDAM BRANCH AT HOUSTON, DE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)
NOV 02...	.44	243	7.0	19.5	17.0	7.1
DEC 06...	2.6	--	6.3	6.0	10.5	10.6
JAN 18...	30	78	6.4	3.5	5.0	--
MAR 07...	3.8	94	6.6	1.0	8.5	10.3
APR 12...	5.8	--	6.7	20.5	16.0	11.6
MAY 24...	8.5	98	5.9	23.5	16.5	6.6
JUL 10...	2.5	9	6.7	30.0	18.5	--
AUG 25...	2.2	70	7.1	26.0	18.0	--

BROADKILL RIVER BASIN

01484270 BEAVERDAM CREEK NEAR MILTON, DE

LOCATION.--Lat 38°45'41", long 75°16'03", Sussex County, Hydrologic Unit 02040207, on left bank, 15 ft (5 m) upstream from culvert on state road (maintenance No. 88), 2.3 mi (3.7 km) east of Milton, and 3.2 mi (5.1 km) upstream from mouth.

DRAINAGE AREA.--6.10 mi^2 (15.8 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1955-71, and annual maximums, water years 1966-71. May 1971 to current year.

GAGE.--Water-stage recorder and artificial control. Datum of gage is 0.91 ft (0.28 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 14, 1966, nonrecording gage at same site at different datum. Jan. 14, 1966, to April 1971 nonrecording gage and crest-stage gage at same site and datum.

REMARKS.--Water-discharge records good except those for Dec. 18 to Jan. 16, which are poor.

AVERAGE DISCHARGE.--7 years, 11.7 ft^3/s (0.331 m^3/s), 26.05 in/yr (662 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52 ft^3/s (1.47 m^3/s) May 24, 1978, gage height, 4.80 ft (1.463 m); minimum, 3.9 ft^3/s (0.11 m^3/s) Nov. 2, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 26 ft^3/s (0.74 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Nov. 7	0200	32	0.91	4.18	1.274
Dec. 18	1545	31	0.88	4.11	1.253
Jan. 10	---	Unknown		Unknown	
Jan. 14	Unknown	39	1.10	4.35	1.326
Jan. 17	2200	31	0.88	4.11	1.253
Jan. 20	1015	33	0.93	4.21	1.283
Jan. 26	0500	27	0.76	4.02	1.225
Mar. 10	1830	34	0.96	4.28	1.305

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Mar. 14	1745	33	0.93	4.23	1.289
Mar. 27	0530	34	0.96	4.19	1.277
May 4	2145	38	1.08	4.38	1.335
May 9	1945	35	0.99	4.28	1.305
May 14	2045	26	0.74	3.94	1.201
May 24	1745	*52	1.47	4.80	1.463
July 25	1200	29	0.82	4.11	1.253
Aug. 2	1430	28	0.79	4.07	1.241

Minimum discharge, 3.9 ft^3/s (0.11 m^3/s) Nov. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	4.2	7.3	18	17	15	23	17	18	13	11	11
2	4.6	4.1	6.1	16	17	15	22	17	18	13	13	9.4
3	4.4	4.6	5.9	15	17	17	21	17	18	16	12	9.0
4	4.3	4.6	5.6	14	17	15	22	22	20	15	12	7.9
5	4.7	4.6	7.8	14	17	14	21	29	18	14	14	7.9
6	4.9	5.8	7.9	14	17	13	21	25	17	13	18	8.4
7	4.8	18	6.3	14	15	14	24	22	17	13	14	8.4
8	4.7	8.1	6.0	14	18	14	24	20	19	13	11	8.6
9	6.9	6.0	6.4	15	17	15	21	24	18	12	11	8.7
10	5.2	5.3	6.0	30	18	23	19	26	17	12	11	8.2
11	4.3	5.4	5.9	18	17	28	20	24	16	12	10	7.7
12	4.4	5.5	5.8	18	17	29	21	21	16	12	11	7.8
13	4.7	5.2	6.0	34	17	27	20	20	16	11	9.6	8.5
14	6.8	4.7	7.4	16	17	27	19	22	16	12	9.2	8.2
15	6.1	4.7	8.5	16	16	29	19	24	15	13	10	8.2
16	4.7	5.0	6.7	17	16	29	18	24	15	13	10	8.1
17	4.4	5.1	6.4	17	16	26	18	22	15	14	9.9	7.5
18	4.6	5.3	16	22	16	25	18	20	15	12	10	7.0
19	4.6	5.1	22	16	16	24	22	19	14	11	9.4	7.7
20	4.6	4.7	14	27	15	23	21	19	15	11	8.7	7.9
21	4.5	4.6	13	22	15	22	21	19	15	11	8.1	7.7
22	4.6	5.3	13	19	15	22	19	19	15	11	8.9	7.6
23	4.6	9.0	13	17	15	22	18	18	14	9.9	8.9	7.5
24	4.2	6.5	13	17	15	22	17	28	14	10	8.8	7.3
25	4.1	5.9	12	20	15	22	17	27	14	17	9.0	7.1
26	4.7	6.7	12	23	15	27	17	22	14	13	9.1	7.3
27	5.8	5.5	12	21	15	31	22	21	13	11	8.5	7.5
28	5.0	5.0	12	20	15	29	21	20	14	11	8.1	7.6
29	4.8	5.2	12	18	---	26	19	20	13	12	8.5	7.3
30	4.7	5.8	12	17	---	24	19	20	13	10	8.5	7.1
31	4.3	---	19	17	---	23	---	19	---	9.9	12	---
TOTAL	149.8	175.5	307.0	576	453	692	604	667	472	380.8	323.2	240.1
MEAN	4.83	5.85	9.90	18.6	16.2	22.3	20.1	21.5	15.7	12.3	10.4	8.00
MAX	6.9	18	22	34	18	31	24	29	20	17	18	11
MIN	4.1	4.1	5.6	14	15	13	17	17	13	9.9	8.1	7.0
CFSM	.79	.96	1.62	3.05	2.66	3.66	3.30	3.53	2.57	2.02	1.71	1.31
IN.	.91	1.07	1.87	3.51	2.76	4.22	3.68	4.07	2.88	2.32	1.97	1.46

CAL YR 1977 TOTAL 2771.1 MEAN 7.59 MAX 22 MIN 4.1 CFSM 1.24 IN 16.90
WTR YR 1978 TOTAL 5040.4 MEAN 13.8 MAX 34 MIN 4.1 CFSM 2.26 IN 30.73

01484270 BEAVERDAM CREEK NEAR MILTON, DE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
NOV 02...	1100	4.2	205	6.2	18.0	15.5	--	4.0	--	--
JAN 16...	1450	14	221	6.6	.0	6.0	--	7.9	--	--
MAR 08...	1205	14	168	6.4	1.0	6.0	30	8.9	24	6
28...	1345	29	122	6.5	14.0	15.5	--	9.4	--	--
APR 18...	1440	18	--	7.0	17.0	17.5	--	8.9	--	--
MAY 24...	1225	22	166	6.1	23.5	17.5	--	4.2	--	--
JUL 13...	1405	11	239	6.1	27.0	19.5	--	--	--	--
AUG 22...	1335	9.6	240	--	25.0	20.0	--	--	--	--
SEP 13...	1110	8.6	222	7.0	18.0	17.0	25	7.9	25	22

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV 02...	--	--	--	--	--	--	--	--	--
JAN 16...	--	--	--	--	--	--	--	--	--
MAR 08...	5.3	2.6	14	4.0	22	18	19	18	.0
28...	--	--	--	--	--	--	--	--	--
APR 18...	--	--	--	--	--	--	--	--	--
MAY 24...	--	--	--	--	--	--	--	--	--
JUL 13...	--	--	--	--	--	--	--	--	--
AUG 22...	--	--	--	--	--	--	--	--	--
SEP 13...	6.4	2.3	14	5.2	4	3	32	17	.0

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV 02...	--	--	--	--	--	--	--	--	--
JAN 16...	--	--	--	--	--	--	--	--	--
MAR 08...	16	105	90	3.5	.28	330	220	40	40
28...	--	--	--	--	--	--	--	--	--
APR 18...	--	--	--	--	--	--	--	--	--
MAY 24...	--	--	--	--	--	--	--	--	--
JUL 13...	--	--	--	--	--	--	--	--	--
AUG 22...	--	--	--	--	--	--	--	--	--
SEP 13...	18	127	97	5.3	.26	330	180	40	40

01484300 SOWBRIDGE BRANCH NEAR MILTON, DE

LOCATION.--Lat 38°48'51", long 75°19'39", Sussex County, Hydrologic Unit 02040207, on left bank at downstream side of highway bridge, 0.7 mi (1.1 km) upstream from mouth, 1 mi (1.6 km) downstream from Reynolds Pond, and 2.5 mi (4.0 km) north of Milton.

DRAINAGE AREA.--7.08 mi² (18.34 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1956 to September 1978 (discontinued).

GAGE.--Water-stage recorder. Concrete control since Oct. 28, 1968. Datum of gage is 3.43 ft (1.045 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good.

AVERAGE DISCHARGE.--22 years, 10.1 ft³/s (0.286 m³/s), 19.37 in/yr (492 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 134 ft³/s (3.79 m³/s) Aug. 5, 1967, gage height, 6.33 ft (1.929 m); minimum, 0.47 ft³/s (0.013 m³/s) Feb. 10, 1969, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 38 ft³/s (1.08 m³/s) Mar. 16, gage height, 5.40 ft (1.646 m); minimum, 0.94 ft³/s (0.027 m³/s) Oct. 23, 24, result of regulation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	3.0	9.3	20	22	11	28	12	16	2.7	8.7	8.6
2	3.0	4.4	9.7	21	22	10	25	13	15	5.4	8.6	12
3	2.6	4.6	2.7	17	21	11	21	13	15	9.2	15	13
4	2.4	4.8	4.9	3.2	20	18	20	16	15	12	17	13
5	2.2	4.6	8.2	5.2	20	18	19	26	15	11	19	12
6	2.3	4.5	10	8.3	20	11	19	31	12	5.2	28	11
7	3.0	8.9	10	12	22	11	20	29	3.5	2.9	36	10
8	3.1	7.1	8.6	13	19	12	23	24	16	2.8	29	9.4
9	3.9	8.3	3.5	16	19	17	23	23	19	3.7	22	4.7
10	5.1	8.7	3.9	14	18	18	21	26	16	4.7	18	3.5
11	4.8	8.7	5.0	20	16	22	19	27	14	5.5	16	3.6
12	4.3	8.3	2.9	19	11	28	19	25	13	6.0	15	4.1
13	3.7	7.9	5.8	18	11	30	18	22	12	6.4	14	7.4
14	3.7	6.0	7.9	27	14	31	18	21	12	6.6	14	8.1
15	5.1	2.0	9.4	29	15	34	17	23	12	7.0	13	8.1
16	5.5	1.8	9.1	28	15	36	16	24	10	7.4	13	8.0
17	4.8	3.0	8.3	25	16	37	15	24	4.6	9.1	13	7.4
18	3.5	4.6	2.8	25	17	36	15	22	12	17	12	3.4
19	1.5	6.1	13	25	15	33	16	20	13	13	12	3.1
20	1.3	5.6	27	30	14	30	19	19	15	4.3	11	6.8
21	1.2	2.8	21	36	14	27	20	18	14	6.4	11	7.1
22	2.5	4.2	6.3	37	14	25	19	16	13	5.1	11	3.3
23	1.3	7.8	9.7	31	14	24	17	16	13	4.8	9.6	5.0
24	1.3	12	12	27	14	22	15	17	12	4.8	9.4	5.8
25	3.6	13	12	24	13	20	9.2	24	11	7.5	9.1	5.8
26	4.5	6.4	12	25	13	20	11	27	11	11	9.1	5.8
27	5.1	5.0	11	24	13	25	14	23	11	11	8.9	5.8
28	5.3	5.4	7.6	24	13	29	20	21	11	10	8.2	5.8
29	1.7	5.5	7.3	19	---	34	19	19	10	9.8	6.1	5.8
30	1.1	5.8	7.7	14	---	21	14	18	8.7	8.8	5.9	5.8
31	1.1	---	13	20	---	28	---	17	---	9.0	7.6	---
TOTAL	97.7	180.8	281.6	656.7	455	729	549.2	656	374.8	230.1	430.2	213.2
MEAN	3.15	6.03	9.08	21.2	16.3	23.5	18.3	21.2	12.5	7.42	13.9	7.11
MAX	5.5	13	27	37	22	37	28	31	19	17	36	13
MIN	1.1	1.8	2.7	3.2	11	10	9.2	12	3.5	2.7	5.9	3.1
CFSM	.45	.85	1.28	2.99	2.30	3.32	2.59	2.99	1.77	1.05	1.96	1.00
IN.	.51	.95	1.48	3.45	2.39	3.83	2.89	3.45	1.97	1.21	2.26	1.12

CAL YR 1977 TOTAL 2260.8 MEAN 6.19 MAX 27 MIN 1.1 CFSM .87 IN 11.88
WTR YR 1978 TOTAL 4854.3 MEAN 13.3 MAX 37 MIN 1.1 CFSM 1.88 IN 25.50

01484300 SOWBRIDGE BRANCH NEAR MILTON, DE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
NOV						
02...	4.6	207	6.8	19.0	16.0	8.9
DEC						
05...	8.3	--	6.9	12.5	8.5	10.0
JAN						
18...	24	97	6.6	5.5	4.5	--
MAR						
08...	11	77	7.1	3.0	3.0	13.0
28...	30	--	6.9	20.0	15.0	10.8
APR						
18...	15	--	7.1	16.5	17.5	10.6
MAY						
24...	16	88	6.2	24.0	20.0	7.3
JUL						
10...	4.9	79	6.7	32.0	25.5	--
AUG						
22...	11	79	--	26.0	23.0	--

01484500 STOCKLEY BRANCH AT STOCKLEY, DE

LOCATION.--Lat 38°38'19", long 75°20'31", Sussex County, Hydrologic Unit 02060010, on left bank at highway bridge in Stockley, 1.6 mi (2.6 km) upstream from mouth, and 4.4 mi (7.1 km) southeast of Georgetown.

DRAINAGE AREA.--5.24 mi^2 (13.57 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1943 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 24.54 ft (7.480 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 16, 1950, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good.

AVERAGE DISCHARGE.--35 years, 6.97 ft^3/s (0.197 m^3/s), 18.06 in/yr (459 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 132 ft^3/s (3.74 m^3/s) June 4, 1948, gage height, 5.0 ft (1.52 m), from graph based on gage readings, from rating curve extended above 50 ft^3/s (1.42 m^3/s); minimum observed, 0.13 ft^3/s (0.004 m^3/s) Sept. 1-11, 1944.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 45 ft^3/s (1.2 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 19	1045	68	1.93	3.52	1.073	Jan. 26	1130	54	1.53	3.29	1.003
Jan. 9	1300	55	1.56	3.32	1.012	Mar. 11	0215	62	1.76	3.42	1.042
Jan. 14	0900	81	2.29	3.70	1.128	Mar. 27	1330	55	1.56	3.31	1.009
Jan. 18	0845	67	1.90	3.50	1.067	May 10	0230	64	1.81	3.17	0.966
Jan. 20	1930	*94	2.66	3.89	1.186						

Minimum discharge, 0.87 ft^3/s (0.025 m^3/s) Oct. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	.99	3.8	18	11	7.9	13	11	9.4	3.7	2.6	3.0
2	1.1	1.0	3.5	15	11	7.8	11	9.5	8.5	3.6	2.7	2.6
3	1.0	1.1	3.3	12	11	8.1	11	8.2	9.3	5.0	3.8	2.7
4	1.0	1.1	3.0	11	10	8.3	11	13	8.9	4.9	3.5	2.5
5	1.0	1.0	4.0	10	10	7.9	11	33	8.3	4.3	2.9	2.3
6	1.0	1.2	5.0	10	10	7.6	11	24	7.9	3.5	4.4	2.3
7	1.0	11	3.7	11	9.9	7.6	16	22	7.9	3.4	3.5	2.2
8	1.1	3.1	3.7	11	9.6	7.7	14	17	8.1	3.4	2.7	2.2
9	1.5	2.5	4.2	39	9.6	7.9	13	31	7.8	3.4	2.7	2.2
10	1.3	2.4	3.9	23	9.5	21	12	49	6.9	3.3	2.7	2.0
11	1.1	2.3	3.7	15	9.2	52	12	29	6.6	3.3	6.4	2.0
12	1.1	2.3	3.8	12	9.2	40	11	21	6.5	3.2	6.4	2.0
13	1.0	2.2	3.6	15	8.9	32	11	18	6.5	2.8	4.3	2.0
14	1.5	2.2	4.5	66	9.4	28	9.9	19	6.1	3.1	3.9	2.0
15	1.6	2.3	6.4	35	8.9	44	9.2	23	5.9	2.9	3.7	1.9
16	1.2	2.2	5.0	22	8.6	28	8.8	19	5.7	3.0	3.5	1.8
17	1.3	2.4	4.8	21	8.7	26	8.8	17	5.7	3.4	3.3	1.8
18	1.1	2.2	22	57	8.8	19	8.8	15	6.0	2.9	3.1	1.8
19	1.1	2.2	58	31	8.8	16	15	14	5.2	2.7	2.9	1.7
20	1.0	2.1	28	64	8.5	14	15	13	5.3	2.5	2.9	1.8
21	1.0	2.2	27	50	8.5	13	11	12	5.5	2.5	2.7	1.7
22	.99	2.6	22	27	8.5	12	9.5	10	5.5	2.5	2.7	1.7
23	.95	4.9	16	21	8.2	11	8.8	9.9	5.2	2.4	2.6	1.8
24	.95	3.5	14	17	8.2	11	8.5	16	5.0	2.3	2.5	1.8
25	.95	3.1	14	22	8.2	10	8.5	20	4.5	3.2	2.4	1.7
26	1.2	3.6	12	45	8.2	19	8.5	15	4.3	2.8	2.4	1.7
27	1.6	3.1	11	27	7.9	45	18	13	5.0	2.5	2.3	1.7
28	1.1	3.0	10	19	7.9	29	18	12	4.1	2.5	2.0	1.7
29	1.0	2.8	9.5	16	---	20	14	12	4.0	2.5	2.0	1.6
30	1.0	3.0	9.9	14	---	16	12	11	3.9	2.5	2.3	1.6
31	1.0	---	19	12	---	14	---	10	---	2.7	4.3	---
TOTAL	34.84	79.59	342.3	768	256.2	590.8	349.3	546.6	189.5	96.7	100.1	59.8
MEAN	1.12	2.65	11.0	24.8	9.15	19.1	11.6	17.6	6.32	3.12	3.23	1.99
MAX	1.6	11	58	66	11	52	18	49	9.4	5.0	6.4	3.0
MIN	.95	.99	3.0	10	7.9	7.6	8.5	8.2	3.9	2.3	2.0	1.6
CFSM	.21	.51	2.10	4.73	1.75	3.65	2.21	3.36	1.21	.60	.62	.38
IN.	.25	.56	2.43	5.45	1.82	4.19	2.48	3.88	1.35	.69	.71	.42

CAL YR 1977 TOTAL 1376.59 MEAN 3.77 MAX 58 MIN .66 CFSM .72 IN 9.77
WTR YR 1978 TOTAL 3413.73 MEAN 9.35 MAX 66 MIN .95 CFSM 1.78 IN 24.23

01484500 STOCKLEY BRANCH AT STOCKLEY, DE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
OCT						
17...	1.2	114	7.4	8.0	11.0	10.2
DEC						
05...	2.9	--	6.5	9.5	10.0	9.0
JAN						
16...	22	85	6.9	-2.0	3.5	10.8
MAR						
02...	7.4	80	6.5	1.0	7.5	11.4
27...	52	65	6.1	14.0	11.5	8.6
APR						
10...	11	--	7.0	14.0	14.0	12.3
MAY						
22...	10	108	5.8	22.0	--	6.9
JUL						
13...	2.7	101	6.8	24.5	16.5	--
AUG						
25...	2.4	98	7.1	26.5	20.0	--

01485000 POCOMOKE RIVER NEAR WILLARDS, MD

LOCATION.--Lat 38°23'20", long 75°19'30", Worcester County, Hydrologic Unit 02060009, on left bank 30 ft (9 m) downstream from bridge on State Highway 346, 0.6 mi (1.0 km) upstream from Burnt Mill Branch, 1.3 mi (2.1 km) east of Willards, 1.3 mi (2.1 km) west of Whaleysville, and 50.3 mi (80.9 km) upstream from mouth.

DRAINAGE AREA.--60.5 mi^2 (156.7 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 13.95 ft (4.252 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair.

AVERAGE DISCHARGE.--28 years (water years 1951-78), 70.3 ft^3/s (1.991 m^3/s), 15.78 in/yr (401 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,230 ft^3/s (34.8 m^3/s) Dec. 20, 1977, gage height, 12.82 ft (3.908 m); maximum gage height, 13.67 ft (4.167 m) June 30, 1972; minimum, 2.2 ft^3/s (0.062 m^3/s) Aug. 18, 19, 1957, gage height, 1.91 ft (0.582 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft^3/s (14 m^3/s) and maximum (*):

Date	Time	Discharge		Gage height		Date	Time	Discharge		Gage height	
		(ft^3/s)	(m^3/s)	(ft)	(m)			(ft^3/s)	(m^3/s)	(ft)	(m)
Dec. 20	0300	*1230	34.8	12.82	3.908	Mar. 11	0500	704	19.9	10.82	3.298
Jan. 14	1030	662	18.7	10.61	3.234	Mar. 27	1300	588	16.7	10.12	3.085
Jan. 18	1100	682	19.3	10.71	3.264	Apr. 27	1930	611	17.3	10.27	3.130
Jan. 21	0200	830	23.5	11.40	3.475	May 5	0230	590	16.7	10.13	3.088
Jan. 26	1500	630	17.8	10.40	3.170	May 10	0800	945	26.8	11.86	3.615

Minimum daily discharge, 6.9 ft^3/s (0.20 m^3/s) Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	20	57	199	117	58	124	158	52	16	11	24
2	11	20	59	176	103	56	107	124	48	16	13	23
3	10	20	55	141	89	59	91	105	46	17	12	20
4	9.8	22	51	115	79	73	87	219	65	18	17	18
5	9.5	22	49	103	72	69	84	534	59	17	22	17
6	9.5	22	56	99	72	66	77	425	56	16	161	15
7	9.5	133	55	129	62	63	92	304	50	15	249	14
8	9.3	108	49	130	61	64	96	248	50	14	116	14
9	12	83	48	324	66	77	82	718	63	14	75	14
10	14	69	52	296	68	311	75	908	55	14	61	13
11	12	60	47	173	66	680	71	674	47	13	52	13
12	12	53	45	129	64	558	68	421	40	13	60	13
13	12	48	41	140	64	411	66	257	35	12	134	12
14	14	43	42	626	66	297	62	232	31	13	97	12
15	22	39	77	530	66	229	59	253	29	14	109	11
16	21	36	76	352	66	206	57	200	27	15	75	11
17	20	35	68	296	66	269	56	175	26	17	62	11
18	20	33	232	659	72	194	54	143	25	16	52	10
19	19	30	985	535	74	161	90	130	24	15	42	9.8
20	18	28	1150	656	72	134	103	119	23	14	34	9.3
21	18	28	907	768	70	120	85	101	22	13	29	9.0
22	17	29	759	548	70	114	74	85	22	12	26	9.0
23	16	54	549	372	65	105	66	75	21	11	23	9.3
24	16	81	398	255	62	95	62	102	20	10	21	9.0
25	16	70	300	274	60	89	60	161	20	11	20	8.5
26	17	71	226	587	60	199	83	106	19	12	19	8.0
27	20	66	174	491	60	541	581	83	18	11	18	7.5
28	21	58	142	326	58	424	510	73	18	10	18	7.1
29	22	53	120	228	---	267	363	68	17	10	17	7.1
30	22	50	109	174	---	184	205	63	17	9.3	16	6.9
31	21	---	172	140	---	147	---	57	---	10	16	---
TOTAL	480.6	1484	7150	9971	1970	6320	3690	7321	1045	418.3	1677	365.5
MEAN	15.5	49.5	231	322	70.4	204	123	236	34.8	13.5	54.1	12.2
MAX	22	133	1150	768	117	680	581	908	65	18	249	24
MIN	9.3	20	41	99	58	56	54	57	17	9.3	11	6.9
CFSM	.26	.82	3.82	5.32	1.16	3.37	2.03	3.90	.58	.22	.89	.20
IN.	.30	.91	4.40	6.13	1.21	3.89	2.27	4.50	.64	.26	1.03	.22

CAL YR 1977 TOTAL 19068.0 MEAN 52.2 MAX 1150 MIN 5.5 CFSM .86 IN 11.72
WTR YR 1978 TOTAL 41892.4 MEAN 115 MAX 1150 MIN 6.9 CFSM 1.90 IN 25.76

01485000 POCOMOKE RIVER NEAR WILLARDS, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
NOV						
08...	114	--	5.4	21.5	18.0	7.4
DEC						
12...	42	--	6.5	.0	2.5	11.0
19...	1010	--	5.6	6.5	9.0	9.6
21...	889	155	4.4	9.5	8.0	8.0
JAN						
06...	100	125	7.0	10.5	7.5	10.1
25...	200	128	5.6	12.0	6.0	9.0
MAR						
02...	55	115	6.5	1.0	3.5	12.1
APR						
10...	76	--	6.6	14.5	12.0	8.6
MAY						
22...	.84	108	5.4	20.5	15.5	6.6
JUL						
19...	15	83	6.2	27.5	22.5	--
AUG						
18...	50	121	7.2	30.0	22.5	--
23...	24	108	--	28.0	24.0	--

01485500 NASSAWANGO CREEK NEAR SNOW HILL, MD

LOCATION.--Lat 38°13'44", long 75°28'19", Worcester County, Hydrologic Unit 02060009, on right bank 15 ft (5 m) downstream from bridge on State Highway 12, 0.5 mi (0.8 km) upstream from Furnace Branch, 0.6 mi (1.0 km) downstream from Millville Creek, 5.5 mi (8.8 km) northwest of Snow Hill, and 7.3 mi (11.7 km) upstream from mouth.

DRAINAGE AREA.--44.9 mi² (116.3 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1949 to current year.

REVISED RECORDS.--WSP 1332: 1953.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 12.29 ft (3.746 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good.

AVERAGE DISCHARGE.--28 years (water years 1951-78), 52.8 ft³/s (1.495 m³/s), 15.97 in/yr (406 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,320 ft³/s (37.4 m³/s) June 30, 1972, gage height, 7.63 ft (2.326 m); maximum gage height, 7.82 ft (2.384 m) Aug. 16, 1953; minimum discharge, 0.80 ft³/s (0.023 m³/s) Sept. 8, 9, 10, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 280 ft³/s (7.9 m³/s) and maximum(*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 20	0400	*1270	36.0	7.37	2.246
Jan. 10	2000	375	10.6	5.75	1.753
Jan. 15	0800	650	18.4	6.46	1.969
Jan. 21	1000	640	18.1	6.44	1.963
Jan. 27	1000	485	13.7	6.09	1.856
Mar. 12	0500	497	14.1	6.12	1.865
Mar. 28	0900	477	13.5	6.07	1.850
Apr. 28	1900	526	14.9	6.19	1.887
May 6	1500	437	12.4	5.96	1.817
May 10	1700	797	22.6	6.73	2.051
Aug. 7	2000	630	17.8	6.42	1.957

Minimum discharge, 1.4 ft³/s (0.040 m³/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	4.0	26	99	87	39	98	169	37	3.3	7.9	15
2	1.6	3.9	25	117	76	37	80	122	32	3.7	16	20
3	2.2	3.9	24	109	64	38	66	95	31	5.3	15	18
4	1.9	4.0	24	83	61	49	60	90	46	6.5	19	14
5	1.7	4.2	25	76	53	53	55	254	41	6.3	20	10
6	1.8	8.6	26	67	50	59	48	407	38	5.1	58	7.6
7	1.8	77	24	79	46	67	47	357	32	4.3	442	5.9
8	1.7	47	23	86	46	62	46	259	30	3.6	489	5.0
9	3.5	84	25	150	44	73	44	401	44	3.1	258	4.7
10	6.3	91	26	316	43	117	43	720	54	2.7	139	4.3
11	4.5	54	23	303	43	335	40	618	43	2.7	76	3.9
12	3.3	33	20	174	42	472	39	340	32	2.9	43	3.6
13	2.9	27	19	126	42	330	36	207	27	2.7	36	3.3
14	8.1	23	22	363	52	218	35	160	22	3.2	60	3.2
15	14	20	33	616	55	160	33	147	18	4.8	107	3.0
16	9.3	18	32	408	56	129	31	139	14	9.8	84	3.0
17	6.4	16	36	254	60	134	29	128	12	26	62	2.8
18	5.2	16	95	398	67	133	26	110	12	19	44	2.8
19	4.9	14	659	515	69	123	60	91	11	11	34	2.7
20	4.4	13	1150	497	64	98	76	73	11	6.7	25	2.6
21	3.8	12	718	623	69	81	84	55	9.1	4.9	19	2.5
22	3.6	15	497	466	63	70	78	43	10	3.9	14	2.5
23	3.1	23	353	271	52	62	61	36	9.4	3.2	11	2.8
24	2.8	25	232	175	50	55	47	38	8.1	3.0	8.9	2.8
25	2.8	26	163	152	49	49	39	84	6.7	4.1	7.5	2.8
26	3.9	32	125	287	45	85	42	120	5.7	13	6.9	2.7
27	6.3	32	99	465	44	267	213	136	5.2	9.1	6.6	2.6
28	6.5	30	82	352	39	457	470	103	4.8	6.1	6.2	2.5
29	5.5	28	65	210	---	338	417	76	4.4	4.7	5.7	2.5
30	4.7	25	60	141	---	205	236	57	3.8	3.8	4.9	2.5
31	4.3	---	81	106	---	134	---	44	---	6.0	4.4	---
TOTAL	134.2	809.6	4812	8084	1531	4529	2699	5679	654.2	194.5	2130.0	161.6
MEAN	4.33	27.0	155	261	54.7	146	90.0	183	21.8	6.27	68.7	5.39
MAX	14	91	1150	623	87	472	470	720	54	26	489	20
MIN	1.4	3.9	19	67	39	37	26	36	3.8	2.7	4.4	2.5
CFSM	.10	.60	3.45	5.81	1.22	3.25	2.00	4.08	.49	.14	1.53	.12
IN.	.11	.67	3.99	6.70	1.27	3.75	2.24	4.70	.54	.16	1.76	.13

CAL YR 1977 TOTAL 15183.4 MEAN 41.6 MAX 1150 MIN 1.4 CFSM .93 IN 12.58
WTR YR 1978 TOTAL 31418.1 MEAN 86.1 MAX 1150 MIN 1.4 CFSM 1.92 IN 26.03

01485500 NASSAWANGO CREEK NEAR SNOW HILL, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
NOV						
07...	66	--	5.3	21.0	14.0	9.2
DEC						
12...	23	485	5.6	1.5	1.5	9.4
20...	1170	69	5.0	9.5	8.5	8.9
21...	718	78	4.5	11.0	8.0	8.9
JAN						
25...	140	28	5.9	15.0	3.5	10.9
FEB						
27...	43	97	5.7	3.0	3.0	11.9
APR						
18...	26	--	6.7	16.0	12.0	9.0
MAY						
30...	57	68	5.5	24.0	18.0	5.9
JUL						
17...	27	77	6.2	23.5	19.5	--
AUG						
30...	4.9	69	6.7	29.5	23.0	--

01486000 MANOKIN BRANCH NEAR PRINCESS ANNE, MD

LOCATION.--Lat 38°12'50", long 75°40'18", Somerset County, Hydrologic Unit 02060009, on right bank 45 ft (14 m) downstream from farm bridge, 1.4 mi (2.3 km) northeast of Princess Anne, and 1.6 mi (2.6 km) upstream from confluence with Loretto Branch.

DRAINAGE AREA.--4.80 mi² (12.43 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1951 to September 1971, October 1974 to current year.

REVISED RECORDS.--WDR MD-DE-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7.03 ft (2.143 m) National Geodetic Vertical Datum of 1929. Artificial control since April 30, 1975. Nov. 26, 1968, to Sept. 30, 1971, water-stage recorder above and nonrecording gage below gage height 1.4 ft (0.43 m). Prior to Nov. 26, 1968, recording gage at datum 1.0 ft (0.30 m) higher.

REMARKS.--Water-discharge records good.

AVERAGE DISCHARGE.--24 years (water years 1952-71, 1975-78), 8.21 ft³/s (0.233 m³/s), 12.34 in/yr (313 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 547 ft³/s (15.5 m³/s) Aug. 20, 1969, gage height, 5.44 ft (1.658 m), from rating curve extended above 27 ft³/s (0.76 m³/s) on basis of channel-conveyance study; no flow at times in 1954, 1963, 1964, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 50 ft³/s (1.4 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 19	0200	203	5.75	4.22	1.286
Jan. 9	0730	117	3.31	3.64	1.109
Jan. 14	0045	108	3.06	3.57	1.088
Jan. 17	2145	124	3.51	3.69	1.125
Jan. 20	0600	108	3.06	3.57	1.088
Jan. 25	1815	64	1.81	3.23	0.985
Mar. 10	1730	53	1.50	3.13	0.954
Mar. 27	0530	93	2.63	3.46	1.055
Apr. 27	0330	54	1.53	3.14	0.957
May 5	0130	58	1.64	3.17	0.966
May 9	0600	119	3.37	3.65	1.113
Aug. 6	1430	217	6.15	4.31	1.314
Aug. 14	2130	*355	10.1	5.23	1.594

Minimum daily discharge, 0.27 ft³/s (0.008 m³/s) Oct. 4, 5, 6, 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	.51	2.4	13	6.1	4.1	8.0	8.5	2.9	.85	1.1	3.3
2	.31	.52	2.4	11	5.6	3.6	6.7	6.5	2.5	.90	1.3	2.5
3	.28	.55	2.2	7.9	5.0	4.5	5.9	5.2	2.7	1.0	1.2	2.1
4	.27	.57	2.0	6.1	4.8	5.5	5.9	8.3	3.3	1.1	3.0	1.7
5	.27	.54	2.3	5.3	4.6	4.9	5.6	38	2.9	1.0	6.0	1.5
6	.27	2.6	2.9	5.9	4.8	4.6	5.1	23	2.7	.90	87	1.3
7	.27	13	2.7	12	4.3	4.5	5.1	17	2.5	.85	43	1.3
8	.28	4.9	2.3	9.7	4.4	5.3	4.7	15	2.5	.75	9.9	1.2
9	.66	3.4	2.5	69	4.4	9.0	4.2	82	2.9	.75	5.2	1.2
10	.76	2.8	2.6	26	4.4	34	4.0	36	2.5	.75	3.9	1.1
11	.46	2.5	2.4	14	4.2	34	3.8	19	2.3	.78	3.3	1.1
12	.42	2.1	2.1	9.9	4.2	20	3.7	13	2.0	.75	2.9	1.1
13	.41	1.9	2.2	19	4.3	14	3.6	9.4	1.8	.72	2.7	1.0
14	.70	1.7	2.5	64	4.9	11	3.2	10	1.5	.80	80	.92
15	.86	1.6	5.9	28	4.9	9.1	2.9	9.9	1.5	.78	181	.95
16	.71	1.5	4.5	16	4.9	9.3	2.8	9.4	1.4	.90	47	.93
17	.64	1.5	3.9	38	5.3	11	2.7	8.1	1.3	1.3	14	.90
18	.61	1.4	37	58	6.9	8.0	2.5	6.5	1.3	.95	7.3	.86
19	.60	1.3	121	26	7.1	6.8	8.1	5.2	1.3	.75	4.7	.85
20	.56	1.2	40	75	6.2	5.6	8.1	4.4	1.3	.72	3.9	.82
21	.54	1.2	48	36	5.9	5.1	6.0	3.9	1.3	.67	3.0	.82
22	.52	1.4	29	21	5.6	5.2	4.7	3.3	1.3	.67	2.5	.80
23	.51	2.1	18	15	5.0	4.9	4.2	3.0	1.1	.67	2.1	.78
24	.50	2.7	14	12	4.7	4.5	3.7	3.8	1.1	.62	1.8	.79
25	.50	2.5	12	29	4.6	4.5	3.5	6.5	1.1	.85	1.7	.77
26	.58	2.6	9.9	46	4.3	30	6.1	4.4	1.1	1.5	1.5	.75
27	.62	2.2	7.7	22	3.7	59	41	3.9	1.1	1.1	1.4	.72
28	.57	2.0	6.3	15	4.0	26	24	3.7	1.1	.85	1.3	.72
29	.54	1.8	5.3	11	---	16	15	3.5	.95	.80	1.2	.68
30	.52	1.8	5.4	8.5	---	12	11	3.5	.90	.75	1.1	.66
31	.50	---	17	7.2	---	9.1	---	3.0	---	.80	1.6	---
TOTAL	15.54	66.39	418.4	736.5	139.1	385.1	215.8	376.9	54.15	26.58	527.6	34.12
MEAN	.50	2.21	13.5	23.8	4.97	12.4	7.19	12.2	1.81	.86	17.0	1.14
MAX	.86	13	121	75	7.1	59	41	82	3.3	1.5	181	3.3
MIN	.27	.51	2.0	5.3	3.7	3.6	2.5	3.0	.90	.62	1.1	.66
CFSM	.10	.46	2.81	4.96	1.04	2.58	1.50	2.54	.38	.18	3.54	.24
IN.	.12	.51	3.24	5.71	1.08	2.98	1.67	2.92	.42	.21	4.09	.26

CAL YR 1977 TOTAL 1390.25 MEAN 3.81 MAX 121 MIN .22 CFSM .79 IN 10.77
WTR YR 1978 TOTAL 2996.18 MEAN 8.21 MAX 181 MIN .27 CFSM 1.71 IN 23.22

01486000 MANOKIN BRANCH NEAR PRINCESS ANNE, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
NOV						
07...	12	--	6.7	20.5	17.0	7.2
DEC						
13...	2.1	--	5.9	8.0	5.0	10.8
19...	120	--	5.5	7.0	9.0	10.1
JAN						
25...	49	51	5.8	15.5	8.5	11.0
FEB						
27...	4.2	124	6.6	4.0	5.5	10.2
APR						
17...	2.5	--	6.8	17.0	16.0	15.4
MAY						
30...	3.1	121	6.0	26.0	21.5	9.6
JUL						
14...	.83	168	6.4	22.5	20.0	--
AUG						
30...	1.1	155	6.7	32.5	25.5	--

01487000 NANTICOKE RIVER NEAR BRIDGEVILLE, DE

LOCATION.--Lat 38°43'42", long 75°33'44", Sussex County, Hydrologic Unit 02060008, on left bank at downstream side of highway bridge, 800 ft (244 m) downstream from Gum Branch, 2.5 mi (4.0 km) southeast of Bridgeville, and 50.5 mi (81.3 km) upstream from mouth.

DRAINAGE AREA.--75.4 mi^2 (195.3 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1943 to current year. Prior to October 1955, published as Gravelly Fork near Bridgeville.

REVISED RECORDS.--WSP 1111: 1947. WSP 1232: 1945-49.

GAGE.--Water-stage recorder. Datum of gage is 13.64 ft (4.157 m) National Geodetic Vertical Datum of 1929 (levels by Soil Conservation Service). Prior to Apr. 19, 1947, nonrecording gage, and Apr. 19, 1947, to Dec. 18, 1969, recording gage at present site and datum. Timber control Sept. 3, 1947, to Dec. 18, 1969. Feb. 18, 1970, to Oct. 1, 1973, recording gage at site 300 ft (91 m) downstream at same datum.

REMARKS.--Water-discharge records fair.

AVERAGE DISCHARGE.--35 years, 91.8 ft^3/s (2.600 m^3/s), 16.53 in/yr (420 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,360 ft^3/s (66.8 m^3/s) Aug. 5, 1967, gage height, 8.86 ft (2.701 m); minimum observed, 6.3 ft^3/s (0.18 m^3/s) Sept. 29, 1943.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 11.0 ft (3.35 m) in September 1935, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 360 ft^3/s (10 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 19	0500	476	13.5	6.78	2.067
Jan. 9	1530	708	20.1	7.22	2.201
Jan. 14	1100	941	26.6	7.59	2.313
Jan. 18	1030	980	27.8	7.65	2.332
Jan. 21	0100	*1340	37.9	8.10	2.469
Jan. 26	1400	692	19.6	7.19	2.192
Mar. 11	2300	580	16.4	7.05	2.149
Mar. 15	0300	580	16.4	7.05	2.149
Mar. 27	1700	1130	32.0	8.09	2.466
May 25	0500	408	11.6	6.68	2.036

Minimum daily discharge, 16 ft^3/s (0.45 m^3/s) Oct. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	19	44	191	172	88	218	109	119	54	54	71
2	19	19	45	165	163	86	200	104	112	54	56	68
3	19	21	41	148	155	89	180	101	108	67	67	59
4	18	23	39	135	146	93	177	115	115	88	65	55
5	18	22	41	128	141	85	175	313	105	74	59	52
6	18	23	49	125	144	83	163	233	101	67	65	50
7	18	61	46	125	140	81	191	198	94	63	85	49
8	17	55	44	125	129	82	187	177	93	60	85	47
9	22	40	45	496	127	84	168	239	92	58	77	47
10	22	35	44	315	127	117	158	270	86	56	71	45
11	19	33	43	202	124	419	154	212	82	56	66	44
12	18	30	42	169	120	438	150	182	80	53	65	44
13	18	29	43	177	117	371	143	168	79	52	71	45
14	18	28	47	733	120	336	138	175	76	51	79	43
15	23	28	90	383	113	476	131	218	74	52	72	42
16	20	28	79	247	108	349	127	319	72	52	69	42
17	20	28	67	230	107	452	123	258	70	56	66	41
18	19	28	146	596	107	303	121	207	69	54	63	39
19	18	27	427	374	106	250	136	177	69	51	61	39
20	18	26	243	665	102	220	151	158	77	50	59	38
21	18	26	241	870	101	202	141	143	69	49	58	38
22	17	32	245	384	99	192	130	130	71	49	56	37
23	17	50	186	287	96	177	121	120	67	48	55	37
24	17	55	164	249	95	166	118	159	64	47	55	36
25	16	45	155	273	93	154	115	339	62	57	54	35
26	18	43	147	594	92	270	113	196	60	67	54	34
27	21	39	134	372	90	853	124	163	59	59	52	34
28	20	38	127	261	88	557	127	150	59	55	53	33
29	19	37	122	223	---	344	118	142	57	53	53	33
30	19	36	121	200	---	275	114	135	55	53	51	32
31	19	---	191	184	---	238	---	126	---	57	57	---
TOTAL	582	1004	3498	9626	3322	7930	4412	5736	2396	1762	1953	1309
MEAN	18.8	33.5	113	311	119	256	147	185	79.9	56.8	63.0	43.6
MAX	23	61	427	870	172	853	218	339	119	88	85	71
MIN	16	19	39	125	88	81	113	101	55	47	51	32
CFSM	.25	.44	1.50	4.13	1.58	3.40	1.95	2.45	1.06	75	.84	.58
IN.	.29	.50	1.73	4.75	1.64	3.91	2.18	2.83	1.18	.87	.96	.65

CAL YR 1977 TOTAL 17916 MEAN 49.1 MAX 427 MIN 13 CFSM .65 IN 8.84
WTR YR 1978 TOTAL 43530 MEAN 119 MAX 870 MIN 16 CFSM 1.58 IN 21.48

01487000 NANTICOKE RIVER NEAR BRIDGEVILLE, DE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961-72, 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
NOV										
03...	1330	20	--	7.0	19.5	17.0	--	4.8	--	--
DEC										
06...	1115	49	--	6.5	3.0	10.5	--	7.9	--	--
30...	1300	119	134	6.9	8.5	5.5	11	9.3	24	15
JAN										
19...	1120	370	120	6.4	-.5	4.5	--	--	--	--
MAR										
10...	1125	91	50	6.2	4.0	7.5	20	11.6	23	12
27...	1445	1050	54	7.0	16.5	12.0	--	8.3	--	--
28...	1215	515	67	5.7	11.0	13.0	--	8.2	--	--
APR										
12...	1100	154	--	6.5	18.5	15.5	--	10.1	--	--
MAY										
26...	1100	200	115	6.0	22.5	17.5	--	6.0	--	--
JUN										
13...	1340	78	111	6.1	22.5	19.0	45	6.2	21	7
JUL										
20...	1345	50	108	6.8	27.0	21.5	--	--	--	--
SEP										
01...	1050	73	120	6.9	20.0	21.5	--	--	--	--
27...	1050	73	120	6.9	20.0	21.5	15	--	17	1
27...	1145	34	202	6.0	19.0	14.0	--	--	--	--

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
NOV									
03...	--	--	--	--	--	--	--	--	--
DEC									
06...	--	--	--	--	--	--	--	--	--
30...	5.8	2.4	7.4	2.3	11	9	9.7	8.7	.0
JAN									
19...	--	--	--	--	--	--	--	--	--
MAR									
10...	5.5	2.2	9.8	2.1	13	11	8.5	13	.0
27...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
APR									
12...	--	--	--	--	--	--	--	--	--
MAY									
26...	--	--	--	--	--	--	--	--	--
JUN									
13...	5.0	2.1	9.8	2.2	17	14	5.8	14	.0
JUL									
20...	--	--	--	--	--	--	--	--	--
SEP									
01...	--	--	--	--	--	--	--	--	--
27...	2.2	2.7	25	3.7	19	16	5.2	39	.2
27...	--	--	--	--	--	--	--	--	--

01487000 NANTICOKE RIVER NEAR BRIDGEVILLE, DE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV									
03...	--	--	--	--	--	--	--	--	--
DEC									
06...	--	--	--	--	--	--	--	--	--
30...	19	73	61	3.8	.03	270	230	60	60
JAN									
19...	--	--	--	--	--	--	--	--	--
MAR									
10...	17	86	65	3.3	.04	500	370	60	60
27...	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--
APR									
12...	--	--	--	--	--	--	--	--	--
MAY									
26...	--	--	--	--	--	--	--	--	--
JUN									
13...	17	78	65	2.3	.04	7300	570	110	90
JUL									
20...	--	--	--	--	--	--	--	--	--
SEP									
01...	--	--	--	--	--	--	--	--	--
27...	3.8	126	91	2.9	.11	400	130	920	40
27...	--	--	--	--	--	--	--	--	--

01488500 MARSHYHOPE CREEK NEAR ADAMSVILLE, DE

LOCATION.--Lat 38°50'59", long 75°40'24", Kent County, Hydrologic Unit 02060008, on left bank 45 ft (14 m) upstream from highway bridge, 1.4 mi (2.3 km) upstream from Cattail Branch, 1.6 mi (2.6 km) northeast of Adamsville, 4.9 mi (7.9 km) northwest of Greenwood, and 33 mi (53 km) upstream from mouth.

DRAINAGE AREA.--43.9 mi² (113.7 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1943 to March 1969, October 1971 to current year.

REVISED RECORDS.--WSP 1141: 1948(P). WSP 1432: 1946(M), 1948, 1952.

GAGE.--Water-stage recorder. Datum of gage is 26.21 ft (7.989 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 24, 1953, nonrecording gage and crest-stage gage, and Nov. 24, 1953, to March 1969, recording gage at site on old channel about 240 ft (73 m) southeast of present site at datum 2.00 ft (0.610 m) higher.

REMARKS.--Water-discharge records good.

AVERAGE DISCHARGE.--32 years (water years 1944-68, 1972-78), 54.5 ft³/s (1.543 m³/s), 16.86 in/yr (428 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,700 ft³/s (105 m³/s) July 13, 1975, gage height, 13.19 ft (4.020 m); maximum gage height, 13.98 ft (4.261 m) Aug. 5, 1967, present datum; minimum discharge, 1.0 ft³/s (0.028 m³/s) Sept. 9, 10, 1964, Aug. 20, 1965.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 16.5 ft (5.03 m), present datum, in September 1935, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 450 ft³/s (12 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 18	2000	1080	30.6	8.07	2.460
Dec. 21	1500	540	15.3	5.40	1.646
Jan. 9	1000	1060	30.0	7.99	2.435
Jan. 14	0500	1010	28.6	7.79	2.374
Jan. 18	0300	1240	35.1	8.65	2.637
Jan. 20	1600	1470	41.6	9.31	2.838
Jan. 26	1000	872	24.7	7.19	2.192
Mar. 12	2100	706	20.0	6.32	1.926
Mar. 14	2200	1190	33.7	8.46	2.579
Mar. 27	0900	*1860	52.7	10.23	3.118

Minimum discharge, 8.0 ft³/s (0.23 m³/s) Oct. 4, 5, 6, 7, 8, gage height, 2.13 ft (0.649 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.7	11	88	125	78	43	104	50	54	23	26	27
2	8.7	11	75	103	74	41	91	48	50	23	33	26
3	8.7	12	61	88	68	44	81	48	50	119	47	22
4	8.3	12	56	75	65	43	81	66	71	156	41	20
5	8.0	12	54	70	62	39	79	162	55	61	33	19
6	8.0	13	65	69	62	38	72	102	50	47	67	19
7	8.0	103	60	71	52	38	109	88	47	41	124	18
8	8.3	56	52	82	60	39	90	81	48	37	66	18
9	11	38	52	679	58	40	79	169	46	34	49	18
10	11	33	54	227	58	103	73	154	43	32	43	17
11	9.9	31	49	117	55	442	70	102	41	31	39	17
12	9.2	30	47	94	54	473	66	85	39	29	37	17
13	8.5	29	46	115	53	436	63	75	39	28	44	18
14	9.9	27	48	746	54	543	60	88	37	27	46	16
15	12	27	135	290	49	604	57	186	35	26	38	16
16	12	26	79	147	48	387	56	236	34	26	36	15
17	12	28	67	209	48	374	55	160	33	27	34	15
18	11	29	391	816	49	184	54	113	32	25	32	14
19	11	28	587	259	49	137	64	90	32	24	31	14
20	11	27	261	810	47	110	72	78	31	23	30	14
21	10	27	398	529	46	97	65	70	30	22	27	14
22	10	30	238	236	45	90	60	62	31	21	26	14
23	9.9	87	146	159	44	80	56	58	29	21	25	14
24	9.9	76	122	129	44	74	55	124	28	20	24	13
25	9.9	56	118	308	44	69	53	130	27	52	24	13
26	11	61	104	678	43	402	53	85	26	45	23	13
27	12	56	86	269	43	1280	56	73	25	32	23	13
28	12	49	77	165	42	412	56	67	25	26	23	13
29	12	46	69	125	---	208	53	64	24	24	22	13
30	11	47	68	107	---	145	52	61	23	23	20	13
31	11	---	150	92	---	118	---	57	---	24	23	---
TOTAL	313.9	1118	3903	7989	1494	7133	2035	3032	1135	1149	1156	493
MEAN	10.1	37.3	126	258	53.4	230	67.8	97.8	37.8	37.1	37.3	16.4
MAX	12	103	587	816	78	1280	109	236	71	156	124	27
MIN	8.0	11	46	69	42	38	52	48	23	20	20	13
CFSM	.23	.85	2.87	5.88	1.22	5.24	1.54	2.23	.86	.85	.85	.37
IN.	.27	.95	3.31	6.77	1.27	6.04	1.72	2.57	.96	.97	.98	.42

CAL YR 1977 TOTAL 12699.9 MEAN 34.8 MAX 587 MIN 5.7 CFSM .79 IN 10.76
WTR YR 1978 TOTAL 30950.9 MEAN 84.8 MAX 1280 MIN 8.0 CFSM 1.93 IN 26.23

01488500 MARSHYHOPE CREEK NEAR ADAMSVILLE, DE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
NOV										
01...	1055	10	145	6.9	18.5	13.5	--	11.0	--	--
DEC										
07...	1435	60	--	6.5	.0	3.0	--	13.2	--	--
29...	1220	72	128	6.2	1.5	3.5	24	11.4	26	13
JAN										
31...	1400	86	--	6.4	5.5	.5	--	11.6	--	--
MAR										
09...	1220	40	104	6.4	4.5	6.0	60	12.0	22	11
APR										
13...	1055	66	--	6.5	22.5	15.5	--	9.3	--	--
MAY										
09...	1410	190	88	6.0	25.5	19.0	--	8.1	--	--
26...	1300	85	110	6.0	22.0	20.5	--	--	--	--
JUN										
14...	1100	38	89	6.6	16.5	17.5	85	10.2	25	7
JUL										
11...	1035	32	98	6.8	20.0	21.5	--	--	--	--
SEP										
01...	1235	26	108	7.0	20.0	21.5	--	--	--	--
27...	1235	26	108	7.0	20.0	21.5	25	--	30	16
27...	1345	13	105	6.4	20.0	17.5	--	--	--	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV									
01...	--	--	--	--	--	--	--	--	--
DEC									
07...	--	--	--	--	--	--	--	--	--
29...	6.8	2.2	7.3	1.8	16	13	14	9.0	.0
JAN									
31...	--	--	--	--	--	--	--	--	--
MAR									
09...	5.7	1.8	7.3	1.5	13	11	13	9.0	.0
APR									
13...	--	--	--	--	--	--	--	--	--
MAY									
09...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
JUN									
14...	6.9	2.0	7.1	1.4	22	18	10	9.0	.1
JUL									
11...	--	--	--	--	--	--	--	--	--
SEP									
01...	--	--	--	--	--	--	--	--	--
27...	8.0	2.5	6.5	1.8	18	15	12	11	.0
27...	--	--	--	--	--	--	--	--	--

01488500 MARSHYHOPE CREEK NEAR ADAMSVILLE, DE--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)
NOV									
01...	--	--	--	--	--	--	--	--	--
DEC									
07...	--	--	--	--	--	--	--	--	--
29...	25	87	76	1.7	.02	1600	1400	190	190
JAN									
31...	--	--	--	--	--	--	--	--	--
MAR									
09...	22	92	70	1.3	.09	4700	3500	130	130
APR									
13...	--	--	--	--	--	--	--	--	--
MAY									
09...	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--
JUN									
14...	22	84	69	1.2	.05	1600	40	80	100
JUL									
11...	--	--	--	--	--	--	--	--	--
SEP									
01...	--	--	--	--	--	--	--	--	--
27...	21	80	72	1.3	.01	650	80	40	30
27...	--	--	--	--	--	--	--	--	--

01489000 FAULKNER BRANCH AT FEDERALSBURG, MD

LOCATION.--Lat 38°42'44", long 75°47'34", Caroline County, Hydrologic Unit 02060008, on right bank 25 ft (8 m) downstream from bridge on Nichols Road, 0.9 mi (1.4 km) upstream from mouth, and 1.6 mi (2.6 km) northwest of Federalsburg.

DRAINAGE AREA.--7.10 mi^2 (18.39 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1950 to current year.

REVISED RECORDS.--WSP 1552: 1952. WSP 2103: 1960(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 16.70 ft (5.090 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Diversion for irrigation of about 100 acres (40.5 ha) above station during some years.

AVERAGE DISCHARGE.--28 years, 8.77 ft^3/s (0.248 m^3/s), 16.77 in/yr (426 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,680 ft^3/s (47.6 m^3/s) July 13, 1975, gage height, 5.98 ft (1.823 m), from rating curve extended above 210 ft^3/s (5.95 m^3/s) on basis of contracted-opening measurement of peak flow; no flow at times during many years (result of pumpage for irrigation).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1935 is believed to have been higher than that of July 13, 1975, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 60 ft^3/s (1.6 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 18	2030	131	3.71	2.85	0.869
Dec. 21	1900	63	1.78	2.20	0.671
Jan. 9	1230	136	3.85	2.89	0.881
Jan. 14	0300	204	5.78	3.32	1.012
Jan. 18	0130	284	8.04	3.65	1.113
Jan. 20	1430	286	8.10	3.66	1.116
Jan. 26	0830	189	5.35	3.24	0.988
Mar. 10	2230	256	7.25	3.55	1.082
Mar. 15	0130	81	2.29	2.38	0.725
Mar. 16	2230	97	2.75	2.54	0.774
Mar. 27	0730	*319	9.03	3.77	1.149
May 5	0430	64	1.81	2.21	0.674
Aug. 14	0245	82	2.32	2.39	0.728

Minimum discharge, 0.58 ft^3/s (0.016 m^3/s) Oct. 3, 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	1.6	8.0	27	13	7.5	18	7.1	6.3	1.9	5.8	8.5
2	.96	1.7	7.1	22	13	6.7	15	6.7	5.4	2.3	12	4.5
3	.84	1.7	6.5	12	12	7.5	14	6.1	5.5	24	8.9	3.8
4	.77	1.7	6.0	14	11	7.8	13	14	6.1	15	6.3	3.5
5	.87	1.7	6.5	13	11	6.7	13	41	5.4	7.3	5.4	3.1
6	.97	2.1	8.3	13	11	6.7	12	21	5.6	5.6	5.6	2.8
7	.96	13	7.0	15	8.7	6.4	18	17	5.0	4.8	25	2.7
8	.91	6.0	6.1	18	9.5	6.7	15	15	5.4	4.3	8.9	2.6
9	2.2	4.7	7.1	83	9.8	7.1	13	33	5.4	4.0	7.2	2.5
10	1.5	4.3	6.5	29	9.7	52	11	25	4.5	4.0	6.1	2.3
11	1.1	3.9	5.9	18	9.3	144	11	17	4.1	5.4	5.4	2.2
12	1.0	3.6	5.6	15	9.0	61	10	14	4.0	3.8	4.9	2.2
13	.95	3.5	5.8	26	8.8	33	9.7	12	4.1	3.3	16	4.1
14	2.0	3.3	7.7	133	9.0	37	8.9	14	3.7	3.3	38	2.7
15	3.8	3.2	18	41	8.2	49	8.5	17	3.4	3.4	11	2.5
16	2.1	3.2	12	24	7.9	46	7.8	21	3.3	3.5	8.6	2.4
17	2.1	3.5	10	40	8.3	51	7.8	17	3.3	3.8	7.3	2.2
18	1.7	3.7	50	159	8.5	26	7.8	14	3.3	3.0	6.1	2.1
19	1.6	3.5	90	40	8.4	21	11	12	3.3	2.7	5.3	2.0
20	1.3	3.2	35	145	8.0	18	12	10	4.1	2.4	4.8	1.9
21	1.2	3.0	45	80	7.9	16	9.7	9.3	3.3	2.3	4.3	1.9
22	1.2	4.7	32	32	7.8	15	8.5	8.1	3.8	2.2	3.9	1.9
23	1.1	10	23	25	7.3	14	7.8	7.5	3.2	2.1	3.7	1.8
24	1.2	8.3	20	22	7.2	13	7.5	16	2.9	1.9	3.4	1.8
25	1.2	6.9	20	61	7.3	12	7.1	17	2.7	28	3.2	1.8
26	1.7	7.7	18	136	7.6	83	7.5	11	2.5	11	3.1	1.6
27	2.3	6.2	15	37	7.6	190	11	9.3	2.5	4.7	3.0	1.6
28	1.7	5.7	14	23	7.4	54	9.7	8.6	2.7	3.9	2.8	1.6
29	1.7	5.4	12	19	---	29	8.2	8.3	2.3	3.3	2.6	1.5
30	1.7	5.5	13	16	---	23	7.8	7.6	2.1	3.1	2.5	1.5
31	1.6	---	34	15	---	20	---	6.9	---	3.3	7.5	---
TOTAL	45.13	136.5	555.1	1353	254.2	1070.1	321.3	443.7	119.2	173.6	238.6	77.6
MEAN	1.46	4.55	17.9	43.6	9.08	34.5	10.7	14.3	3.97	5.60	7.70	2.59
MAX	3.8	13	90	159	13	190	18	41	6.3	28	38	8.5
MIN	.77	1.6	5.6	12	7.2	6.4	7.1	6.1	2.1	1.9	2.5	1.5
CFSM	.21	.64	2.52	6.14	1.28	4.86	1.51	2.01	.56	.79	1.09	.37
IN.	.24	.72	2.91	7.09	1.33	5.61	1.68	2.32	.62	.91	1.25	.41

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CAL YR 1977  TOTAL  1783.02   MEAN  4.88   MAX  90   MIN  .70   CFSM  .69   IN  9.34
WTR YR 1978  TOTAL  4788.03   MEAN 13.1    MAX 190   MIN  .77   CFSM 1.85   IN 25.08
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01489000 FAULKNER BRANCH AT FEDERALSBURG, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
OCT						
27...	2.1	295	6.4	21.5	16.5	8.3
DEC						
07...	6.9	--	6.3	.0	--	11.9
JAN						
19...	35	124	6.9	-.5	4.5	--
FEB						
28...	7.1	154	7.0	1.5	4.5	11.9
APR						
13...	9.6	--	7.2	26.5	16.0	10.8
MAY						
09...	40	132	5.8	23.0	16.5	7.9
25...	16	148	6.1	22.0	17.5	7.6
JUL						
18...	3.1	174	6.4	24.5	--	--
29...	2.6	161	7.0	27.5	21.0	--

01490000 CHICAMACOMICO RIVER NEAR SALEM, MD

LOCATION.--Lat 38°30'43", long 75°52'51", Dorchester County, Hydrologic Unit 02060007, on left bank 30 ft (9 m) downstream from Big Mill Pond dam, 1.6 mi (2.6 km) east of Salem, 3.5 mi (5.6 km) northwest of Vienna, and 13 mi (21 km) upstream from mouth.

DRAINAGE AREA.--15.0 mi^2 (38.8 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1951 to current year.

REVISED RECORDS.--WSP 1332: 1952.

GAGE.--Water-stage recorder. Altitude of gage is 10 ft (3.05 m).

REMARKS.--Water-discharge records fair. Occasional regulation by Big Mill Pond. Diversion for irrigation of about 225 acres (91.1 ha) above station.

AVERAGE DISCHARGE.--27 years, 18.2 ft^3/s (0.515 m^3/s), 16.48 in/yr (419 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 542 ft^3/s (15.3 m^3/s) Aug. 3, 1973, gage height, 4.48 ft (1.366 m); minimum daily, 0.13 ft^3/s (0.004 m^3/s) July 6, 7, 1977 (result of pumpage for irrigation).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 326 ft^3/s (9.23 m^3/s) Mar. 27, gage height, 3.93 ft (1.198 m); minimum daily, 2.5 ft^3/s (0.071 m^3/s) Sept. 27, 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	12	22	52	24	18	44	27	22	11	9.0	15
2	9.7	13	24	41	23	18	39	24	20	12	16	12
3	5.9	13	21	33	22	19	36	22	20	25	65	9.8
4	3.4	15	19	28	22	21	34	29	24	40	34	8.8
5	3.1	14	18	25	21	20	32	127	21	17	17	7.6
6	3.3	14	29	25	21	19	31	84	21	11	65	7.0
7	3.3	73	28	28	21	19	34	62	20	10	80	6.5
8	3.7	41	24	30	20	19	30	49	25	9.4	50	5.2
9	9.4	26	22	60	20	21	28	88	27	9.0	20	5.2
10	14	23	22	54	20	35	26	127	21	8.8	17	4.0
11	8.8	22	19	33	20	129	25	66	17	10	14	4.9
12	6.5	19	17	27	19	105	24	47	17	10	13	6.4
13	5.6	16	17	29	18	65	23	41	18	9.2	15	5.4
14	7.3	14	20	165	19	51	23	43	16	8.6	50	4.3
15	19	14	49	86	19	118	23	69	14	8.4	26	6.0
16	13	14	38	42	18	68	22	84	14	8.0	16	7.0
17	11	15	29	37	18	68	22	62	14	10	14	6.0
18	8.8	16	64	155	19	47	22	48	17	9.3	12	5.9
19	8.0	15	194	68	19	35	28	41	17	8.3	11	5.7
20	7.5	14	92	109	18	30	29	35	21	7.3	10	5.1
21	7.2	13	86	141	18	33	27	31	17	5.9	9.2	5.9
22	7.2	16	76	51	18	30	24	28	29	5.4	8.3	5.7
23	7.2	25	45	39	17	28	22	26	21	5.1	8.3	5.1
24	6.8	27	36	32	16	26	21	30	16	4.6	8.0	5.4
25	7.2	23	34	37	17	25	20	43	15	8.7	7.8	4.9
26	9.2	23	32	111	17	200	24	34	14	13	7.6	2.8
27	14	22	28	62	17	260	54	29	15	9.7	8.7	2.5
28	13	19	25	38	18	100	48	28	16	11	9.2	3.9
29	11	17	23	31	---	66	35	27	13	10	7.6	2.5
30	11	17	23	28	---	56	30	25	12	7.5	5.4	4.2
31	11	---	48	25	---	50	---	23	---	7.6	12	---
TOTAL	264.6	605	1224	1722	539	1799	880	1499	554	330.8	646.1	180.7
MEAN	8.54	20.2	39.5	55.5	19.3	58.0	29.3	48.4	18.5	10.7	20.8	6.02
MAX	19	73	194	165	24	260	54	127	29	40	80	15
MIN	3.1	12	17	25	16	18	20	22	12	4.6	5.4	2.5
CFSM	.57	1.35	2.63	3.70	1.29	3.87	1.95	3.23	1.23	.71	1.39	.40
IN.	.66	1.50	3.04	4.27	1.34	4.46	2.18	3.72	1.37	.82	1.60	.45

CAL YR 1977 TOTAL 4479.24 MEAN 12.3 MAX 194 MIN .13 CFSM .82 IN 11.11
WTR YR 1978 TOTAL 10244.20 MEAN 28.1 MAX 260 MIN 2.5 CFSM 1.87 IN 25.40

01490000 CHICAMACOMICO RIVER NEAR SALEM, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
OCT						
26...	7.9	119	7.0	20.0	15.5	10.1
DEC						
09...	21	--	5.8	6.0	1.5	10.1
FEB						
02...	23	60	6.0	-2.0	3.0	11.7
28...	18	101	6.8	2.5	5.5	13.1
APR						
19...	27	--	6.5	20.5	16.0	10.1
MAY						
25...	46	92	5.6	21.0	18.5	4.2
JUL						
18...	9.1	98	6.5	29.5	26.5	--
AUG						
29...	7.2	91	7.3	29.0	25.5	--

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD

LOCATION.--Lat 38°59'50", long 75°47'09", Caroline County, Hydrologic Unit 02060005, on left bank at highway bridge, 0.1 mi (0.2 km) upstream from Gravelly Branch, 2 mi (3 km) northeast of Greensboro, and 60 mi (97 km) upstream from mouth.

DRAINAGE AREA.--113 mi^2 (293 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1948 to current year.

REVISED RECORDS.--WSP 1622: 1948.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3.51 ft (1.070 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Slight diurnal fluctuation at low flow caused by mill above station.

AVERAGE DISCHARGE.--30 years, 130 ft^3/s (3.682 m^3/s), 15.62 in/yr (397 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,970 ft^3/s (197 m^3/s) Aug. 4, 1967, gage height, 14.47 ft (4.410 m), from rating curve extended above 3,600 ft^3/s (102 m^3/s); minimum, 1.2 ft^3/s (0.034 m^3/s) Aug. 29, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1935 is believed to have been higher than that of Aug. 4, 1967, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft^3/s (28 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 19	1715	1760	49.8	8.23	2.509	Jan. 26	1900	2300	65.1	9.06	2.761
Jan. 15	0430	1010	28.6	6.57	2.003	Mar. 15	1230	2420	68.5	9.25	2.819
Jan. 18	2100	1540	43.6	7.85	2.393	Mar. 27	1930	*3180	90.1	10.30	3.139
Jan. 21	1000	1860	52.7	8.40	2.560						

Minimum discharge, 6.4 ft^3/s (0.18 m^3/s) Oct. 5, gage height, 1.78 ft (0.543 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	22	155	251	180	97	281	83	86	29	187	53
2	13	22	307	250	170	94	251	78	78	32	452	48
3	12	23	226	207	160	93	212	74	77	94	552	41
4	10	30	160	173	140	97	196	84	124	292	387	39
5	9.1	28	137	147	120	91	196	239	149	322	224	36
6	8.8	28	139	135	110	86	186	336	105	181	172	34
7	9.7	72	163	135	92	85	171	253	84	116	300	29
8	10	164	143	148	115	83	167	204	84	81	376	28
9	20	174	120	397	110	88	156	233	125	68	252	30
10	28	107	118	791	92	115	142	442	134	59	196	29
11	20	77	120	407	130	223	132	433	87	60	167	27
12	17	64	105	252	150	474	130	253	70	58	142	26
13	15	57	94	197	135	779	121	186	66	47	140	31
14	16	51	95	507	115	1060	111	172	68	45	168	32
15	25	48	194	916	115	2100	102	225	62	46	153	29
16	24	46	394	532	110	1270	96	400	57	45	122	28
17	23	52	258	335	105	924	91	402	55	47	98	28
18	22	59	329	1040	107	701	88	298	53	44	84	27
19	20	64	1380	1160	111	480	106	209	50	39	75	26
20	19	58	1240	807	107	346	173	169	49	35	66	25
21	18	52	781	1600	103	283	208	143	45	32	60	20
22	17	53	739	914	103	263	177	121	60	31	56	22
23	16	74	502	503	97	255	142	103	62	29	50	24
24	16	122	332	331	95	228	118	132	50	27	46	25
25	15	141	284	386	93	198	107	216	44	42	44	21
26	17	132	277	1760	96	368	100	197	39	51	43	20
27	27	161	237	1540	100	2490	97	154	38	43	44	19
28	34	137	170	654	100	2120	100	131	39	35	45	19
29	31	104	170	372	---	905	96	117	35	34	43	18
30	27	95	147	260	---	526	88	106	32	31	38	18
31	24	---	167	210	---	349	---	96	---	51	51	---
TOTAL	575.6	2317	9683	17317	3261	17271	4341	6289	2107	2146	4833	852
MEAN	18.6	77.2	312	559	116	557	145	203	70.2	69.2	156	28.4
MAX	34	174	1380	1760	180	2490	281	442	149	322	552	53
MIN	8.8	22	94	135	92	83	88	74	32	27	38	18
CFSM	.17	.68	2.76	4.95	1.03	4.93	1.28	1.80	.62	.61	1.38	.25
IN.	.19	.76	3.19	5.70	1.07	5.69	1.43	2.07	.69	.71	1.59	.28

CAL YR 1977 TOTAL 26416.7 MEAN 72.4 MAX 1380 MIN 2.4 CFSM .64 IN 8.70
WTR YR 1978 TOTAL 70992.6 MEAN 195 MAX 2490 MIN 8.8 CFSM 1.73 IN 23.37

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1974 to current year.
WATER TEMPERATURES: October 1974 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 184 micromhos Sept. 23, 1976; minimum daily, 45 micromhos July 15, 1975.
WATER TEMPERATURE: Maximum daily, 28.0°C July 23, 1978; minimum daily, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 158 micromhos Sept. 28; minimum daily, 45 micromhos Feb. 5.
WATER TEMPERATURE: Maximum daily, 28.0°C July 23; minimum daily, 0.0°C Jan. 13.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)
OCT												
25...	1010	16	147	7.0	16.0	10.0	1	--	11.4	47	K18	53
NOV												
22...	1050	53	138	6.9	8.0	7.0	4	--	11.3	78	130	46
DEC												
27...	1015	243	110	6.6	-5.5	.5	8	--	13.6	30	74	35
JAN												
24...	1140	340	82	6.2	3.0	.0	7	--	14.0	<17	45	24
FEB												
22...	1030	106	118	7.2	-3.0	3.0	5	--	12.6	37	37	37
MAR												
23...	1140	260	76	6.3	16.0	11.0	1	--	8.4	44	K23	26
APR												
24...	0910	130	82	6.6	17.0	15.0	5	--	9.2	K25	K25	29
MAY												
23...	1000	104	117	6.4	25.5	19.0	--	6.0	8.1	K25	100	34
25...	1040	46	92	5.6	21.0	18.5	--	--	4.2	--	--	--
JUN												
19...	1100	46	123	6.2	22.5	20.0	--	3.0	7.1	98	K15	40
JUL												
24...	1100	28	140	6.9	26.5	25.5	--	2.0	6.7	62	315	46
AUG												
23...	1000	51	132	7.7	23.0	22.0	--	7.0	8.9	80	260	43
SEP												
25...	1230	22	152	6.8	23.0	20.0	--	3.0	--	37	78	48

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
OCT												
25...	27	15	3.8	8.3	3.2	32	26	20	14	.1	13	97
NOV												
22...	28	13	3.4	8.3	2.7	22	18	25	12	.1	20	95
DEC												
27...	24	8.9	3.0	6.0	2.4	13	11	23	9.7	.1	17	87
JAN												
24...	23	6.3	2.1	4.0	1.8	2	2	18	6.7	.1	13	72
FEB												
22...	27	10	2.9	6.8	1.9	12	10	20	9.8	.1	18	88
MAR												
23...	17	6.6	2.2	5.3	2.0	10	8	18	7.2	.0	13	78
APR												
24...	11	7.9	2.3	6.1	1.8	22	18	16	9.6	.1	11	97
MAY												
23...	--	8.8	2.9	5.9	1.8	--	27	20	11	.1	16	101
25...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
19...	21	11	3.0	7.5	2.0	--	19	17	13	.1	18	107
JUL												
24...	21	13	3.3	8.0	2.1	--	25	15	14	.1	13	114
AUG												
23...	21	12	3.1	8.0	2.2	--	22	14	13	--	--	75
SEP												
25...	23	13	3.8	7.7	2.4	--	25	17	15	.1	15	99

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)
OCT 25...	93	.75	.01	--	--	.02	--	--	--	--	--	--
NOV 22...	95	.83	.01	--	--	.03	--	--	--	--	--	--
DEC 27...	77	1.2	.04	--	.72	.04	.03	--	1	0	0	0
JAN 24...	53	.99	.02	.36	.37	.04	.01	--	--	--	--	--
FEB 22...	75	1.5	.03	.32	.38	.04	.01	--	--	--	--	--
MAR 23...	60	.90	.02	.65	.25	.05	.02	1	1	100	100	0
APR 24...	66	.69	.03	.44	.36	.04	.01	--	--	--	--	--
MAY 23...	--	.82	.14	--	.00	.11	.02	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
JUN 19...	83	1.1	.04	1.2	.52	.08	.07	1	1	100	100	0
JUL 24...	84	.81	.04	.59	.35	.03	.03	--	--	--	--	--
AUG 23...	--	1.0	.03	.32	.58	.08	.03	--	--	--	--	--
SEP 25...	89	1.2	.02	.15	.25	.04	.01	1	1	100	100	1

DATE	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
OCT 25...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 22...	--	--	--	--	--	--	--	--	--	--	--	--
DEC 27...	0	40	0	4	2	7	2	810	350	10	3	50
JAN 24...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 22...	--	--	--	--	--	--	--	--	--	--	--	--
MAR 23...	1	<10	--	0	0	9	3	690	360	0	4	40
APR 24...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 23...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
JUN 19...	2	10	0	1	1	3	3	2600	--	10	6	60
JUL 24...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 23...	--	--	--	--	--	--	--	--	--	--	--	--
SEP 25...	0	<10	0	2	1	2	1	630	220	10	3	20

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C)
OCT												
25...	--	--	--	--	--	--	--	--	--	5.8	--	--
NOV												
22...	--	--	--	--	--	--	--	--	--	14	--	--
DEC												
27...	40	--	<.5	--	0	0	0	40	30	--	12	.4
JAN												
24...	--	--	--	--	--	--	--	--	--	5.1	--	--
FEB												
22...	--	--	--	--	--	--	--	--	--	3.9	--	--
MAR												
23...	40	<.5	<.5	0	0	0	0	20	20	--	5.9	1.0
APR												
24...	--	--	--	--	--	--	--	--	--	5.6	--	--
MAY												
23...	--	--	--	--	--	--	--	--	--	8.1	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
19...	50	<.5	<.5	0	0	0	0	20	10	--	4.9	.4
JUL												
24...	--	--	--	--	--	--	--	--	--	4.9	--	--
AUG												
23...	--	--	--	--	--	--	--	--	--	7.3	--	--
SEP												
25...	10	<.5	<.5	0	0	0	0	0	10	--	5.6	1.2

DATE	ATRAZINE, TOTAL (UG/L)	ATRAZINE, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCB, TOTAL (UG/L)	P,P' DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	P,P' DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL (UG/L)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)
OCT											
25...	--	--	--	--	--	--	--	--	--	--	--
NOV											
22...	ND	ND	ND	.6	.5	ND	ND	ND	ND	ND	ND
DEC											
27...	--	--	--	--	--	--	--	--	--	--	--
JAN											
24...	--	--	--	--	--	--	--	--	--	--	--
FEB											
22...	--	--	--	--	--	--	--	--	--	--	--
MAR											
23...	--	--	ND	--	--	ND	--	ND	--	ND	ND
APR											
24...	--	--	--	--	--	--	--	--	--	--	--
MAY											
23...	--	--	--	--	--	--	--	--	--	--	--
JUN											
19...	ND	--	ND	--	--	ND	ND	ND	ND	ND	ND
JUL											
24...	--	--	--	--	--	--	--	--	--	--	--
AUG											
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	ND	--	--	ND	--	ND	--	ND	ND
SEP											
25...	--	--	--	--	--	--	--	--	--	--	--

ND NOT DECTECTED

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DI-AZINON, TOTAL (UG/L)	DI-AZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DI-ELDRIN TOTAL (UG/L)	DI-ELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL (UG/L)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTA-CHLOR, TOTAL (UG/L)
OCT											
25...	--	--	--	--	--	--	--	--	--	--	--
NOV											
22...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DEC											
27...	--	--	--	--	--	--	--	--	--	--	--
JAN											
24...	--	--	--	--	--	--	--	--	--	--	--
FEB											
22...	--	--	--	--	--	--	--	--	--	--	--
MAR											
23...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
APR											
24...	--	--	--	--	--	--	--	--	--	--	--
MAY											
23...	--	--	--	--	--	--	--	--	--	--	--
JUN											
19...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUL											
24...	--	--	--	--	--	--	--	--	--	--	--
AUG											
23...	--	--	--	--	--	--	--	--	--	--	--
23...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
SEP											
25...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTA-CHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALA-THION, TOTAL (UG/L)	MALA-THION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METH-OXY-CHLOR, TOTAL (UG/L)	METH-OXY-CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOT. IN BOTTOM MATL. (UG/KG)
OCT											
25...	--	--	--	--	--	--	--	--	--	--	--
NOV											
22...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DEC											
27...	--	--	--	--	--	--	--	--	--	--	--
JAN											
24...	--	--	--	--	--	--	--	--	--	--	--
FEB											
22...	--	--	--	--	--	--	--	--	--	--	--
MAR											
23...	--	ND	--	ND	--	ND	--	ND	--	ND	--
APR											
24...	--	--	--	--	--	--	--	--	--	--	--
MAY											
23...	--	--	--	--	--	--	--	--	--	--	--
JUN											
19...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUL											
24...	--	--	--	--	--	--	--	--	--	--	--
AUG											
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	ND	--	ND	--	ND	--	ND	--	ND	--
SEP											
25...	--	--	--	--	--	--	--	--	--	--	--

ND NOT DECTECTED

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	METHYL TRI-THION, TOTAL (UG/L)	METHYL TRI-THION, TOT. IN BOTTOM MATL. (UG/KG)	PARA-THION, TOTAL (UG/L)	PARA-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TOX-APHENE, TOTAL (UG/L)	TOXA-PHENE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4-D, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	2,4,5-T TOTAL (UG/L)	2,4,5-T TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
OCT											
25...	--	--	--	--	--	--	--	--	--	--	--
NOV											
22...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DEC											
27...	--	--	--	--	--	--	--	--	--	--	--
JAN											
24...	--	--	--	--	--	--	--	--	--	--	--
FEB											
22...	--	--	--	--	--	--	--	--	--	--	--
MAR											
23...	ND	--	ND	--	ND	--	ND	--	--	--	--
APR											
24...	--	--	--	--	--	--	--	--	--	--	--
MAY											
23...	--	--	--	--	--	--	--	--	--	--	--
JUN											
19...	ND	ND	ND	ND	ND	ND	ND	--	--	--	--
JUL											
24...	--	--	--	--	--	--	--	--	--	--	--
AUG											
23...	--	--	--	--	--	--	--	--	--	--	--
23...	ND	--	ND	--	ND	--	ND	--	--	--	--
SEP											
25...	--	--	--	--	--	--	--	--	--	--	--

DATE	SILVEX, TOTAL (UG/L)	SILVEX, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	SIMA-ZINE TOTAL COUL-SON COND. (UG/L)	SIMA-ZINE IN BOTTOM MATERI-AL (UG/KG DRY SOLIDS)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT										
25...	--	--	--	--	--	--	--	3	.13	100
NOV										
22...	ND	ND	ND	ND	44	--	--	9	1.3	62
DEC										
27...	--	--	--	--	--	.000	.000	9	5.9	67
JAN										
24...	--	--	--	--	--	--	--	6	5.5	71
FEB										
22...	--	--	--	--	--	--	--	1	.29	100
MAR										
23...	--	--	--	--	--	.236	.394	4	2.8	100
APR										
24...	--	--	--	--	--	--	--	6	2.1	100
MAY										
23...	--	--	--	--	260	--	--	11	3.1	100
JUN										
19...	--	--	ND	--	23	.315	.551	11	1.4	100
JUL										
24...	--	--	--	--	83	--	--	4	.30	100
AUG										
23...	--	--	--	--	--	--	--	3	.41	100
23...	--	--	--	--	--	--	--	3	--	100
SEP										
25...	--	--	--	--	--	--	--	1	.06	100

ND NOT DECTECTED

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	148	143	134	98	85	105	---	102	106	---	91	133
2	148	145	110	90	85	105	80	102	110	120	69	138
3	143	142	100	99	95	99	79	104	---	115	70	138
4	140	151	120	---	93	98	80	105	107	100	73	136
5	139	153	109	109	45	105	82	89	105	122	89	138
6	---	157	129	110	98	105	87	72	108	125	100	138
7	142	152	125	110	---	108	88	75	107	130	95	140
8	145	122	122	109	---	108	---	80	110	136	82	138
9	140	110	128	109	70	105	87	83	104	138	92	140
10	140	129	---	75	---	107	90	77	94	138	99	139
11	143	138	128	65	---	99	94	70	---	140	109	139
12	152	---	132	80	90	83	96	74	106	139	113	140
13	---	141	136	90	101	63	101	80	111	139	118	138
14	152	145	128	97	100	55	---	85	114	140	103	140
15	149	148	123	65	100	45	---	87	120	138	99	140
16	141	142	99	65	100	52	105	77	---	136	111	139
17	140	140	106	65	99	59	105	78	---	132	118	148
18	147	135	105	83	101	65	106	79	117	123	128	141
19	149	135	108	60	100	68	100	84	120	120	126	143
20	150	131	66	65	100	70	89	---	140	128	131	142
21	140	132	79	47	102	75	74	91	135	133	132	142
22	145	150	88	60	105	82	76	99	135	140	135	145
23	142	137	74	60	107	70	80	---	115	136	138	145
24	142	140	92	60	109	68	110	103	140	140	137	148
25	143	129	---	55	108	80	97	88	138	134	131	148
26	141	138	108	49	101	80	100	---	118	138	132	151
27	158	---	115	48	105	---	100	93	116	142	132	150
28	147	133	109	55	103	55	99	98	140	148	135	158
29	150	141	127	60	---	60	101	100	139	141	135	153
30	150	149	130	73	---	73	104	104	140	139	138	155
31	142	---	98	80	---	88	---	105	---	128	148	---
MEAN	145	140	111	76	96	81	93	89	119	133	113	143

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.0	13.5	8.0	3.0	1.0	2.5	---	13.0	21.5	---	22.5	23.5
2	19.5	14.5	9.0	3.0	.5	2.0	15.0	15.5	24.0	21.5	22.5	22.0
3	16.5	16.0	8.0	2.0	.5	2.0	10.0	16.0	---	20.0	22.5	21.5
4	14.5	18.0	7.5	---	1.0	1.5	12.0	15.0	21.0	18.5	24.0	22.0
5	13.5	18.5	7.0	2.0	.5	1.0	15.0	11.0	18.5	18.0	24.0	21.5
6	---	18.0	7.5	4.0	.5	2.5	13.0	11.0	21.0	21.0	23.5	22.5
7	13.5	17.0	4.5	5.0	---	3.0	14.5	12.0	20.5	22.0	24.5	22.0
8	13.0	17.5	2.0	6.0	---	2.0	---	13.5	22.0	23.0	25.5	22.5
9	14.5	17.0	2.5	6.5	.5	3.0	14.0	15.5	21.5	24.5	24.5	22.0
10	13.0	17.5	---	2.0	---	3.5	14.0	18.0	21.0	23.5	25.0	19.5
11	13.5	14.0	.5	.5	.5	3.0	15.0	15.5	---	24.0	25.0	20.0
12	14.0	---	.5	.5	.5	3.5	15.0	16.0	20.5	21.0	25.0	21.5
13	13.5	8.0	2.0	.0	.5	4.0	16.5	18.0	21.5	22.0	23.5	21.0
14	12.0	8.0	5.5	2.0	.5	6.0	---	17.5	19.0	21.5	24.0	19.0
15	13.0	7.5	6.5	1.0	1.0	---	15.0	16.5	19.0	21.0	24.0	19.5
16	13.0	9.0	7.0	.5	.5	7.0	15.5	14.5	---	21.5	24.0	20.5
17	11.0	11.5	6.5	1.0	1.0	5.0	15.0	14.0	---	21.0	25.0	21.0
18	10.5	10.5	---	2.5	2.0	5.5	13.0	15.5	22.5	21.0	24.0	20.5
19	12.0	9.0	---	1.0	3.0	6.5	13.5	20.5	22.0	22.0	23.0	22.5
20	12.5	8.0	6.0	1.5	1.0	8.5	13.0	---	23.0	23.0	24.5	21.0
21	11.5	7.5	7.0	1.0	2.0	11.0	12.5	23.0	23.0	24.0	24.0	21.0
22	12.5	9.0	6.5	1.5	2.5	12.0	12.0	21.0	23.0	26.0	23.5	21.5
23	12.5	9.0	5.0	1.5	2.0	13.0	13.5	18.0	22.5	28.0	21.5	19.5
24	12.0	9.5	5.0	1.0	1.5	12.0	14.5	19.0	22.5	27.0	24.0	18.0
25	11.0	8.0	---	3.0	2.5	9.0	14.5	19.5	21.0	24.0	24.0	16.0
26	13.5	7.0	3.0	5.5	3.0	7.0	12.5	---	21.5	22.5	23.5	15.5
27	16.0	---	.5	4.0	3.0	---	10.5	19.0	24.0	24.5	22.5	16.0
28	16.5	5.5	1.0	.5	1.0	---	13.5	19.5	23.5	25.0	23.5	15.0
29	16.0	5.0	1.0	.5	---	12.5	15.0	18.5	25.5	24.5	25.5	15.0
30	13.0	6.0	2.0	.5	---	11.0	17.0	21.5	24.5	24.5	24.5	13.5
31	11.5	---	3.5	.5	---	11.0	---	22.0	---	24.5	25.0	---

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO JULY 1978

DATE	NOV 22,77	MAY 24,78	JUN 19,78	JUL 24,78
TIME	1050	1000	1100	1100
TOTAL CELLS/ML	44	260	23	83
DIVERSITY: DIVISION	1.0	1.2	0.0	0.0
.CLASS	1.0	1.2	0.0	0.0
..ORDER	1.0	1.8	0.0	1.0
...FAMILY	1.5	2.8	0.0	1.5
....GENUS	1.5	2.8	0.0	1.5

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...OOCYSTACEAE								
....SELENASTRUM	--	-	60#	23	--	-	--	-
...SCENEDESMACEAE								
....SCENEDESMUS	--	-	20	8	--	-	--	-
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	--	-	60#	23	--	-	41#	50
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	20	8	--	-	--	-
....COCCONEIS	7#	17	--	-	--	-	--	-
...FRAGILARIACEAE								
....SYNEDRA	--	-	20	8	--	-	--	-
...GOMPHONEMATACEAE								
....GOMPHONEMA	*	0	--	-	--	-	14#	17
...NAVICULACEAE								
....NAVICULA	--	-	40#	15	--	-	--	-
...NITZSCHIACEAE								
....NITZSCHIA	15#	33	20	8	--	-	28#	33
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONIDALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	22#	50	--	-	--	-	--	-
...CRYPTOMONODACEAE								
....CRYPTOMONAS	--	-	20	8	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	--	-	23#	100	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

01492000 BEAVERDAM BRANCH AT MATTHEWS, MD

LOCATION.--Lat 38°48'41", long 75°58'15", Talbot County, Hydrologic Unit 01060005, on left bank 50 ft (15 m) upstream from bridge on State Highway 328, 1 mi (2 km) west of Matthews, 1.2 mi (1.9 km) upstream from mouth, and 6 mi (10 km) northeast of Easton.

DRAINAGE AREA.--5.85 mi^2 (15.15 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1950 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2.33 ft (0.710 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good.

AVERAGE DISCHARGE.--28 years, 6.72 ft^3/s (0.190 m^3/s), 15.60 in/yr (396 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,200 ft^3/s (62.3 m^3/s) Sept. 12, 1960, gage height, 10.24 ft (3.121 m), from high-water mark in gage shelter, from rating curve extended above 440 ft^3/s (12.5 m^3/s) on basis of contracted-opening measurement at gage height 7.15 ft (2.179 m); no flow at times during many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 120 ft^3/s (3.3 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 18	1800	204	5.78	3.53	1.076
Jan. 9	1200	127	3.60	2.82	0.860
Jan. 14	0530	166	4.70	3.20	0.975
Jan. 18	0300	264	7.48	3.98	1.213
Jan. 20	1730	192	5.44	3.43	1.045
Jan. 25	2300	208	5.89	3.56	1.085
Mar. 14	2215	200	5.66	3.49	1.064
Mar. 26	1845	261	7.39	3.96	1.207
July 25	0900	*804	22.8	6.43	1.960
Aug. 3	0115	143	4.05	2.98	0.908
Aug. 13	0900	176	4.98	3.29	1.003

Minimum discharge, 0.01 ft^3/s (<0.001 m^3/s) Oct. 4, 5, gage height, 1.01 ft (0.308 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	.32	24	11	5.4	4.9	8.5	2.8	2.0	.31	30	5.1
2	.08	.32	6.4	8.9	5.2	4.5	7.2	2.7	1.6	.52	64	2.4
3	.04	.41	4.2	6.5	5.2	4.4	6.5	2.6	1.5	53	64	1.8
4	.02	.56	3.5	5.0	4.7	4.9	7.8	23	3.7	21	14	1.5
5	.03	.50	4.9	5.1	4.7	4.3	7.3	40	2.2	4.0	7.7	1.3
6	.05	3.9	7.0	5.7	4.8	4.3	6.2	9.7	3.6	2.1	10	1.1
7	.07	50	4.2	6.5	5.1	4.2	8.9	7.0	2.0	1.5	42	.95
8	.08	4.9	3.0	15	5.3	4.3	6.9	7.5	5.1	1.2	6.5	.95
9	.50	2.4	4.1	85	5.4	5.0	5.8	37	3.5	.98	4.0	.85
10	.12	1.8	3.2	12	5.3	33	5.6	14	2.0	1.7	3.0	.56
11	.12	1.9	2.6	6.9	5.0	86	5.7	6.7	1.3	2.5	2.6	.56
12	.11	1.4	2.3	5.8	4.9	78	5.7	5.1	1.1	.95	2.8	.52
13	.13	1.2	2.7	21	4.7	44	5.3	4.4	1.2	.70	88	.95
14	2.6	1.1	13	116	5.3	71	4.6	9.4	1.5	.70	14	.68
15	7.0	1.1	31	28	4.9	60	4.3	13	1.2	.90	6.5	.60
16	.84	1.2	7.0	13	5.0	32	4.2	12	.99	.84	5.1	.60
17	.76	4.5	5.2	45	5.2	28	4.2	9.2	.87	1.2	3.5	.52
18	.48	4.6	96	127	5.6	12	4.2	5.8	.93	.78	2.4	.38
19	.35	2.3	91	19	5.8	9.4	8.3	4.4	.84	.53	2.1	.38
20	.30	1.8	23	108	5.0	8.0	10	3.6	.76	.44	1.8	.38
21	.25	1.9	50	45	5.0	7.7	5.9	2.9	.85	.38	1.4	.32
22	.24	6.4	16	13	4.8	8.8	4.6	2.3	3.0	.33	1.4	.32
23	.21	18	9.2	9.4	4.2	7.3	4.0	2.2	1.1	.31	1.3	.45
24	.20	6.1	8.0	8.3	4.3	6.6	3.9	9.1	.75	.25	1.2	.38
25	.21	4.1	13	85	5.0	6.0	3.7	4.9	.60	226	1.1	.32
26	.69	18	8.2	129	5.9	125	4.0	3.1	.53	25	1.1	.32
27	1.4	4.7	5.8	21	5.8	138	4.9	2.8	.61	4.9	1.1	.26
28	.67	3.2	5.0	10	5.1	28	4.3	2.9	1.1	2.6	.95	.26
29	.48	2.8	4.6	7.5	---	14	3.5	2.7	.54	1.9	.85	.22
30	.38	3.8	6.3	6.6	---	10	3.2	2.4	.39	1.5	.76	.22
31	.33	---	25	5.8	---	9.0	---	2.1	---	3.5	20	---
TOTAL	18.79	155.21	489.4	991.0	142.6	862.6	169.2	257.3	47.36	362.52	405.16	25.15
MEAN	.61	5.17	15.8	32.0	5.09	27.8	5.64	8.30	1.58	11.7	13.1	.84
MAX	7.0	50	96	129	5.9	138	10	40	5.1	226	88	5.1
MIN	.02	.32	2.3	5.0	4.2	4.2	3.2	2.1	.39	.25	.76	.22
CFSM	.10	.88	2.70	5.47	.87	4.75	.96	1.42	.27	2.00	2.24	.14
IN.	.12	.99	3.11	6.30	.91	5.48	1.08	1.64	.30	2.30	2.58	.16

CAL YR 1977 TOTAL 1229.95 MEAN 3.37 MAX 96 MIN .02 CFSM .58 IN 7.82
WTR YR 1978 TOTAL 3926.29 MEAN 10.8 MAX 226 MIN .02 CFSM 1.85 IN 24.96

01492000 BEAVERDAM BRANCH AT MATTHEWS, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
NOV 09...	2.5	180	7.5	17.5	15.0	--
DEC 05...	3.2	150	7.5	10.0	6.5	11.6
JAN 16...	15	110	6.4	6.5	1.0	7.8
FEB 28...	3.8	100	7.3	4.0	3.0	13.1
APR 12...	5.9	108	6.7	12.5	13.0	--
MAY 30...	2.7	199	6.8	22.0	24.0	6.9
JUL 11...	2.4	130	7.4	23.5	22.0	9.0
SEP 06...	1.1	190	6.6	22.0	21.0	6.5

01493000 UNICORN BRANCH NEAR MILLINGTON, MD

LOCATION.--Lat 39°14'59", long 75°51'40", Kent County, Hydrologic Unit 02060002, on right bank 20 ft (6 m) upstream from bridge on State Highway 313, 0.9 mi (1.4 km) upstream from mouth, and 1.4 mi (2.3 km) southwest of Millington.

DRAINAGE AREA.--22.3 mi² (57.8 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1948 to current year.

REVISED RECORDS.--WSP 1382: 1952(P).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3.57 ft (1.088 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair. Occasional regulation at low flow by fish hatchery above station.

AVERAGE DISCHARGE.--30 years, 24.6 ft³/s (0.697 m³/s), 14.98 in/yr (380 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,060 ft³/s (30.0 m³/s) Sept. 12, 1960, gage height, 7.17 ft (2.185 m); no flow for part of each day June 13, 14, 1965, caused by regulation at Unicorn Lake Dam.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 180 ft³/s (5.1 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 19	0600	251	7.11	4.15	1.265	Jan. 26	0500	*482	13.7	5.04	1.536
Jan. 18	1300	288	8.16	4.31	1.314	Mar. 15	0530	326	9.23	4.46	1.359
Jan. 21	0400	230	6.51	4.05	1.234	Mar. 27	1630	456	12.9	4.95	1.509

Minimum discharge, 3.5 ft³/s (0.10 m³/s) Oct. 4, 5, gage height, 1.80 ft (0.549 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	5.8	46	38	35	22	47	20	21	13	34	23
2	5.0	6.0	41	38	34	21	42	20	20	14	25	15
3	4.9	7.3	36	38	34	22	39	19	27	45	31	13
4	3.8	7.9	33	36	35	22	39	26	29	57	21	12
5	3.7	6.5	31	34	35	20	39	53	26	27	26	11
6	4.0	6.9	24	20	35	19	36	43	25	19	63	9.9
7	4.1	31	16	14	35	19	35	33	29	18	53	10
8	4.2	22	11	15	34	20	34	29	26	18	38	9.5
9	8.2	12	12	63	34	20	31	61	26	16	29	10
10	7.1	9.8	11	93	34	24	30	139	20	17	25	9.2
11	5.4	9.2	12	63	35	39	31	74	19	16	21	9.9
12	4.9	8.4	8.8	39	35	62	30	43	23	13	19	9.5
13	4.4	7.9	6.7	38	35	100	27	34	21	12	18	17
14	5.5	7.7	7.1	71	35	151	26	41	19	14	17	9.5
15	7.8	7.6	22	91	32	266	24	59	16	16	16	9.1
16	5.4	7.6	39	53	28	130	24	70	17	16	16	10
17	6.0	12	23	44	28	105	23	61	23	17	14	9.2
18	5.6	11	51	201	25	101	23	44	23	14	13	8.3
19	5.3	9.0	196	129	25	69	30	34	22	13	13	8.9
20	4.8	8.4	115	85	25	55	56	30	21	13	12	8.9
21	5.0	8.0	83	180	24	47	43	26	27	13	11	7.8
22	4.9	8.3	94	86	23	47	33	23	36	13	11	7.4
23	4.7	16	60	55	23	43	28	22	20	12	10	8.2
24	5.1	16	47	43	22	39	26	33	16	11	10	8.8
25	4.8	13	46	132	22	36	24	35	15	16	10	7.6
26	6.0	25	47	461	23	82	23	29	17	17	12	7.2
27	14	17	39	224	23	394	24	25	19	15	12	7.0
28	8.4	13	32	81	23	245	23	24	17	16	27	6.6
29	6.5	12	34	51	---	103	22	23	14	15	15	6.6
30	5.9	13	39	42	---	68	21	22	13	14	13	6.4
31	5.9	---	38	38	---	53	---	21	---	21	29	---
TOTAL	175.5	345.3	1300.6	2596	831	2444	933	1216	647	551	664	296.5
MEAN	5.66	11.5	42.0	83.7	29.7	78.8	31.1	39.2	21.6	17.8	21.4	9.88
MAX	14	31	196	461	35	394	56	139	36	57	63	23
MIN	3.7	5.8	6.7	14	22	19	21	19	13	11	10	6.4
CFSM	.25	.52	1.88	3.75	1.33	3.53	1.40	1.76	.97	.80	.96	.44
IN.	.29	.58	2.17	4.33	1.39	4.08	1.56	2.03	1.08	.92	1.11	.49

CAL YR 1977 TOTAL 4833.67 MEAN 13.2 MAX 196 MIN .87 CFSM .59 IN 8.06
WTR YR 1978 TOTAL 11999.90 MEAN 32.9 MAX 461 MIN 3.7 CFSM 1.48 IN 20.02

01493000 UNICORN BRANCH NEAR MILLINGTON, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)
NOV						
04...	8.5	108	7.4	22.0	17.0	8.8
DEC						
09...	12	110	7.9	8.5	4.5	7.5
JAN						
16...	50	98	6.3	2.0	1.0	7.7
APR						
13...	29	100	7.2	15.0	16.0	--
MAY						
03...	21	97	7.2	27.0	25.0	9.4
JUL						
12...	13	150	7.6	22.5	21.0	10.0

01493500 MORGAN CREEK NEAR KENNEDYVILLE, MD

LOCATION.--Lat 39°16'48", long 76°00'54", Kent County, Hydrologic Unit 02060002, on right bank 200 ft (61 m) upstream from highway bridge, 2 mi (3 km) southwest of Kennedyville, and 4.5 mi (7.2 km) upstream from mouth.

DRAINAGE AREA.--12.7 mi^2 (32.9 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1951 to current year.

REVISED RECORDS.--WSP 1552: 1952, 1953(P), 1954(M), 1955, 1956-57(M). WDR MD-DE-76-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 15 ft (4.6 m).

REMARKS.--Water-discharge records good except those for February and June, which are poor.

AVERAGE DISCHARGE.--27 years, 10.6 ft^3/s (0.300 m^3/s), 11.33 in/yr (288 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,500 ft^3/s (212 m^3/s) June 22, 1972, gage height, 13.07 ft (3.984 m), from rating curve extended above 590 ft^3/s (16.7 m^3/s) on basis of Type IV culvert and flow-over-road measurement of peak flow; minimum, 0.60 ft^3/s (0.017 m^3/s) Aug. 28, 29, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft^3/s (5.6 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	(m^3/s)	Gage height (ft)	(m)
Dec. 18	1615	336	9.52	5.62	1.713
Jan. 18	0800	206	5.83	4.64	1.414
Jan. 26	0730	*1430	40.5	8.95	2.728
Mar. 26	2215	214	6.06	4.72	1.439

Minimum discharge, 2.3 ft^3/s (0.065 m^3/s) Oct. 3, 4, 5, 6, July 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	3.2	33	8.6	7.0	6.9	11	6.3	5.6	5.4	61	8.9
2	2.9	3.7	15	7.6	7.0	6.5	9.0	6.3	5.3	5.2	15	5.2
3	2.5	5.2	6.9	5.9	6.7	6.7	8.5	6.3	7.5	35	7.9	4.4
4	2.3	7.5	5.5	5.2	6.5	7.4	11	11	10	47	6.4	4.3
5	2.3	4.8	7.3	5.6	5.8	6.2	9.6	20	8.0	9.0	9.0	4.0
6	2.7	5.0	11	6.9	5.8	6.3	8.7	11	6.0	5.9	7.1	4.0
7	3.0	30	5.7	7.7	5.8	6.2	9.3	8.7	7.0	4.9	6.0	4.0
8	2.9	16	4.2	13	7.5	6.5	8.5	8.4	9.0	4.5	5.0	4.0
9	11	6.9	6.2	55	9.0	7.1	7.9	35	6.4	4.4	5.2	4.0
10	11	5.5	4.6	23	8.4	10	8.1	25	5.8	4.8	5.2	3.6
11	4.2	6.7	3.8	6.5	7.8	30	8.3	11	5.4	5.3	4.8	4.0
12	3.6	4.5	3.5	6.1	7.6	64	8.4	8.3	5.2	4.3	5.3	4.9
13	2.8	3.9	5.3	7.6	7.6	68	7.5	7.8	5.4	4.1	5.3	18
14	4.2	3.6	13	42	8.0	97	7.0	13	6.2	4.5	5.2	6.3
15	12	3.6	48	36	7.6	74	6.8	19	4.9	4.8	4.8	4.9
16	6.0	3.7	16	14	7.4	24	6.8	16	4.9	5.2	4.3	4.9
17	6.0	18	7.6	14	7.0	21	6.9	12	4.9	8.6	4.0	4.9
18	4.5	11	160	162	7.4	22	6.9	11	5.3	9.5	3.6	4.9
19	3.6	5.1	129	60	8.2	13	11	8.8	4.9	5.0	3.6	4.9
20	3.3	4.1	40	18	6.8	10	18	7.7	4.4	4.2	3.6	4.4
21	3.1	4.0	31	17	7.0	9.4	10	6.8	7.0	4.0	3.3	4.4
22	3.0	4.4	20	11	7.1	9.7	8.1	6.2	10	3.4	3.4	4.4
23	2.9	11	11	7.9	6.2	8.3	7.5	6.2	7.0	4.1	3.6	5.0
24	3.2	8.1	9.0	7.7	6.2	8.0	7.5	27	5.6	2.9	3.6	4.4
25	3.1	7.9	12	125	7.4	7.7	6.9	15	5.2	16	3.6	4.4
26	4.4	39	9.4	635	8.1	80	6.9	7.3	5.0	12	3.7	3.6
27	13	13	8.0	53	7.7	143	7.5	6.3	14	5.6	4.7	3.6
28	9.5	6.4	5.5	24	6.8	34	7.5	6.3	8.0	5.3	41	3.6
29	4.3	5.8	5.1	11	---	15	6.3	6.2	5.8	4.9	8.8	3.6
30	3.5	7.5	6.0	8.8	---	11	6.3	5.8	5.6	4.8	4.6	3.6
31	3.2	---	11	7.7	---	11	---	5.6	---	14	25	---
TOTAL	146.6	259.1	653.6	1412.8	201.4	829.9	253.7	351.3	195.3	258.6	277.6	149.1
MEAN	4.73	8.64	21.1	45.6	7.19	26.8	8.46	11.3	6.51	8.34	8.95	4.97
MAX	13	39	160	635	9.0	143	18	35	14	47	61	18
MIN	2.3	3.2	3.5	5.2	5.8	6.2	6.3	5.6	4.4	2.9	3.3	3.6
CFSM	.37	.68	1.66	3.59	.57	2.11	.67	.89	.51	.66	.71	.39
IN.	.43	.76	1.91	4.14	.59	2.43	.74	1.03	.57	.76	.81	.44

CAL YR 1977 TOTAL 2599.0 MEAN 7.12 MAX 160 MIN 1.6 CFSM .56 IN 7.61
WTR YR 1978 TOTAL 4989.0 MEAN 13.7 MAX 635 MIN 2.3 CFSM 1.08 IN 14.61

01493500 MORGAN CREEK NEAR KENNEDYVILLE, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 25...	1420	2.8	118	7.4	19.0	10.5	13	10.9	365	355
NOV 22...	1340	4.5	120	7.3	10.0	7.0	65	8.7	215	328
DEC 27...	1210	7.8	148	7.2	.5	.5	45	12.6	130	110
JAN 24...	1420	8.3	122	6.8	.0	5.0	45	13.4	<21	110
FEB 22...	1250	7.2	123	6.8	1.0	1.5	40	11.4	448	332
MAR 23...	1215	8.3	86	7.2	15.5	10.5	85	10.4	122	106
APR 24...	1215	7.3	109	7.0	25.0	17.0	50	10.0	143	37
MAY 23...	1240	6.2	132	6.9	22.5	20.0	50	7.6	740	270
JUN 19...	1330	3.7	109	6.9	23.0	21.0	40	7.6	620	140
JUL 24...	1230	3.4	120	6.9	29.0	23.0	30	6.9	340	2400
AUG 23...	1350	3.2	119	7.6	23.5	22.5	45	7.5	400	1600
SEP 26...	1100	4.0	120	6.6	14.0	14.0	40	--	450	520

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT 25...	45	7	13	3.1	5.0	4.4	47	39	5.0	9.5
NOV 22...	44	10	12	3.4	5.3	4.6	41	34	6.3	10
DEC 27...	49	12	13	3.9	4.8	4.8	45	37	9.6	11
JAN 24...	41	19	11	3.2	5.0	3.5	27	22	7.9	10
FEB 22...	44	17	12	3.3	5.1	3.2	32	26	6.4	9.5
MAR 23...	41	15	11	3.2	4.7	3.8	31	25	8.5	9.0
APR 24...	40	9	11	3.0	4.9	3.2	37	30	5.0	11
MAY 23...	44	6	12	3.5	4.7	3.0	47	39	5.5	10
JUN 19...	40	9	11	3.1	4.7	2.8	38	31	2.8	8.3
JUL 24...	43	11	12	3.2	5.0	3.4	39	32	6.3	8.2
AUG 23...	42	12	12	3.0	5.0	3.1	37	30	2.6	9.4
SEP 26...	29	0	5.9	3.5	4.7	3.3	39	32	4.0	9.7

01493500 MORGAN CREEK NEAR KENNEDYVILLE, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)
OCT										
25...	.1	11	73	76	1.0	.04	1400	1100	170	170
NOV										
22...	.1	13	76	75	1.2	.06	1900	30	220	220
DEC										
27...	.1	12	76	82	2.1	.11	2000	500	320	320
JAN										
24...	.1	11	77	65	2.2	.10	1400	130	200	200
FEB										
22...	.1	12	83	68	2.3	.10	1900	500	350	340
MAR										
23...	.1	8.2	78	66	1.6	.09	1900	1600	190	200
APR										
24...	.2	5.3	70	62	1.6	.04	1700	30	260	250
MAY										
23...	.1	10	84	72	1.8	.10	2400	--	330	350
JUN										
19...	.1	12	82	64	1.4	.07	2400	--	190	180
JUL										
24...	.1	11	149	70	1.3	.03	1400	1200	150	140
AUG										
23...	.1	11	90	65	1.5	.04	1600	320	210	40
SEP										
26...	.1	12	83	63	1.6	.04	1200	30	130	130

01495000 BIG ELK CREEK AT ELK MILLS, MD

LOCATION.--Lat 39°39'26", long 75°49'20", Cecil County, Hydrologic Unit 02060002, on right bank 100 ft (30 m) downstream from highway bridge at Elk Mills, 3.5 mi (5.6 km) north of Elkton, and 7 mi (11 km) upstream from confluence with Little Elk Creek.

DRAINAGE AREA.--52.6 mi^2 (136.2 km^2).

WATER-DISCHARGE RECORD

PERIOD OF RECORD.--April 1932 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 1432: 1932-33, 1934(M), 1935, 1936(M), 1938, 1939-40(M), 1942(M), 1943-51, 1952-53(P).

GAGE.--Water-stage recorder. Datum of gage is 68.5 ft (20.88 m) National Geodetic Vertical Datum of 1929. Apr. 10, 1932, to May 16, 1946, nonrecording gage at bridge 100 ft (30 m) upstream at same datum.

REMARKS.--Water-discharge records good except those for February, which are fair. Slight diurnal fluctuation caused by mills above station.

AVERAGE DISCHARGE.--46 years, 69.7 ft^3/s (1.974 m^3/s), 17.99 in/yr (457 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,600 ft^3/s (300 m^3/s) July 5, 1937, gage height, 14.5 ft (4.42 m), from floodmarks, from rating curve extended above 1,700 ft^3/s (48.1 m^3/s) on basis of velocity-area and conveyance studies; minimum, 4.5 ft^3/s (0.13 m^3/s) Jan. 21, 1955, (result of freezeup); minimum daily, 4.8 ft^3/s (0.14 m^3/s) Sept. 8-10, 1966; minimum gage height observed, 2.09 ft (0.637 m) Sept. 19, 22-24, 1932.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 19 ft (5.8 m) in June 1884, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,700 ft^3/s (48 m^3/s) and maximun (*):

Date	Time	Discharge		Gage height		Date	Time	Discharge		Gage height	
		(ft^3/s)	(m^3/s)	(ft)	(m)			(ft^3/s)	(m^3/s)	(ft)	(m)
Dec. 18	1600	2930	83.0	7.91	2.411	Mar. 26	2230	2030	57.5	6.78	2.067
Jan. 26	0915	*5120	145	10.21	3.112	May 15	0100	2520	71.4	7.40	2.256
Mar. 14	2000	2740	77.6	7.67	2.338	July 3	1845	2150	60.9	6.94	2.115

Minimum discharge, 23 ft^3/s (0.65 m^3/s) Oct. 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	31	245	56	78	52	102	54	72	47	53	61
2	29	32	99	55	68	50	92	53	68	45	40	46
3	26	38	67	54	72	54	89	53	67	733	38	42
4	24	67	57	52	68	54	99	61	78	218	37	39
5	23	42	61	50	70	54	103	89	68	87	67	37
6	24	38	75	51	60	64	90	69	66	64	87	36
7	26	171	59	52	70	62	98	63	64	54	53	35
8	24	97	50	87	80	50	87	64	86	49	43	34
9	77	57	50	568	74	52	80	188	73	46	36	35
10	65	49	46	100	70	55	81	134	62	45	63	33
11	32	105	44	72	68	75	81	76	58	44	65	34
12	29	53	45	66	64	162	83	66	55	39	163	39
13	27	45	53	69	60	346	77	65	63	39	51	79
14	37	41	113	260	64	1030	72	450	58	39	61	41
15	114	39	183	100	62	568	70	657	54	42	42	38
16	49	38	79	78	60	215	70	248	52	41	39	38
17	89	44	63	109	58	144	70	190	54	42	37	37
18	55	53	1090	550	58	133	70	226	56	39	34	36
19	39	40	397	163	56	308	102	144	53	36	33	47
20	35	36	148	100	60	205	145	115	50	35	33	43
21	32	36	250	92	56	170	86	101	50	34	31	37
22	31	38	122	84	52	196	73	91	106	33	31	37
23	30	119	85	82	52	126	67	87	54	32	31	37
24	29	69	76	82	54	108	66	114	49	30	31	34
25	28	56	106	692	54	94	63	99	46	33	31	34
26	34	236	79	2690	56	697	61	86	46	37	33	32
27	50	74	68	249	56	593	61	82	129	33	37	32
28	51	57	64	140	58	188	59	81	73	96	355	32
29	36	54	62	120	---	140	57	80	56	41	64	31
30	32	64	60	94	---	118	56	78	72	34	45	31
31	31	---	63	84	---	108	---	75	---	41	50	---
TOTAL	1234	1919	4059	7101	1758	6271	2410	4039	1938	2228	1814	1167
MEAN	39.8	64.0	131	229	62.8	202	80.3	130	64.6	71.9	58.5	38.9
MAX	114	236	1090	2690	80	1030	145	657	129	733	355	79
MIN	23	31	44	50	52	50	56	53	46	30	31	31
CFSM	.76	1.22	2.49	4.35	1.19	3.84	1.53	2.47	1.23	1.37	1.11	.74
IN.	.87	1.36	2.87	5.02	1.24	4.43	1.70	2.86	1.37	1.58	1.28	.83

CAL YR 1977 TOTAL 22882 MEAN 62.7 MAX 1090 MIN 15 CFSM 1.19 IN 16.18
WTR YR 1978 TOTAL 35938 MEAN 98.5 MAX 2690 MIN 23 CFSM 1.87 IN 25.42

01495000 BIG ELK CREEK AT ELK MILLS, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
NOV						
04...	75	115	7.9	25.0	17.0	--
DEC						
02...	57	150	8.0	3.0	4.5	11.0
JAN						
23...	76	148	8.3	4.0	2.0	8.9
MAR						
07...	61	115	8.2	2.0	1.0	--
APR						
18...	69	105	7.9	16.5	11.0	--
27...	63	115	8.0	11.0	10.0	--
JUN						
09...	73	100	8.8	22.5	20.0	8.9
AUG						
30...	44	160	6.9	25.0	23.5	8.8

01496000 NORTHEAST CREEK AT LESLIE, MD

LOCATION.--Lat 39°37'38", long 75°56'40", Cecil County, Hydrologic Unit 02060002, on left bank at downstream side of highway bridge, 0.7 mi (1.1 km) northeast of Leslie, 1.5 mi (2.4 km) southeast of Bay View, and 1.7 mi (2.7 km) upstream from confluence with Little Northeast Creek.

DRAINAGE AREA.--24.3 mi² (62.9 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1948 to current year.

REVISED RECORDS.--WSP 1232: 1949-51.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 115.0 ft (35.05 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Slight diurnal fluctuation at low flow caused by powerplant above station.

AVERAGE DISCHARGE.--30 years, 35.7 ft³/s (1.011 m³/s), 19.95 in/yr (507 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,800 ft³/s (136 m³/s) June 22, 1972, gage height, 8.41 ft (2.563 m), from rating curve extended above 2,300 ft³/s (65.1 m³/s) on basis of contracted-opening measurement at gage height 7.74 ft (2.359 m); minimum, 1.2 ft³/s (0.034 m³/s) Sept. 8, 9, 10, 11, 12, 13, 14, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 800 ft³/s (22 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 18	2000	2000	56.6	5.62	1.713	Mar. 14	2345	1500	42.5	4.94	1.506
Jan. 9	1500	807	22.9	3.84	1.170	Mar. 27	0200	1680	47.6	5.17	1.576
Jan. 26	1130	*3140	88.9	6.84	2.085						

Minimum discharge, 6.6 ft³/s (0.19 m³/s) Oct. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	13	193	26	30	20	39	21	19	11	16	28
2	9.3	13	47	25	27	19	33	21	17	10	13	22
3	8.9	26	31	24	28	21	32	20	17	305	11	18
4	7.6	91	26	30	27	21	41	25	22	249	11	15
5	7.1	32	28	22	29	21	43	48	19	31	23	15
6	7.4	27	43	21	18	24	34	31	17	22	30	14
7	8.1	191	28	24	24	24	42	28	16	18	16	14
8	8.1	73	21	71	33	18	35	28	27	16	14	14
9	45	37	22	533	29	18	30	183	24	16	12	14
10	36	33	21	46	28	20	29	86	17	15	16	13
11	15	78	19	39	27	35	29	32	15	14	14	13
12	13	33	19	33	25	107	31	28	15	13	19	13
13	11	27	18	33	24	267	28	25	16	12	14	30
14	11	24	79	214	25	581	26	197	17	12	12	18
15	90	22	128	60	24	585	25	248	13	13	11	14
16	31	21	40	50	23	118	24	209	13	13	11	14
17	46	26	30	60	23	73	24	124	13	13	10	13
18	32	37	825	513	23	66	24	147	14	12	9.7	13
19	26	25	562	103	22	206	42	52	13	11	9.2	27
20	18	21	80	46	24	135	98	37	12	11	9.0	18
21	15	21	247	46	21	86	41	30	12	10	8.6	15
22	15	23	71	38	21	145	31	25	25	9.9	8.4	15
23	14	109	40	38	20	53	28	24	15	9.7	8.6	15
24	13	52	37	37	21	42	27	31	13	9.3	8.4	15
25	13	41	74	313	21	33	26	33	12	9.5	8.1	14
26	13	199	41	1860	22	499	25	25	11	10	8.1	13
27	26	42	34	217	22	892	24	22	17	9.8	8.3	13
28	26	31	29	70	23	110	24	22	15	12	202	13
29	17	30	28	49	---	58	22	21	12	11	20	12
30	14	45	24	36	---	46	22	21	11	9.6	13	12
31	13	---	25	32	---	41	---	20	---	12	17	---
TOTAL	618.3	1443	2910	4709	684	4384	979	1864	479	929.8	591.4	477
MEAN	19.9	48.1	93.9	152	24.4	141	32.6	60.1	16.0	30.0	19.1	15.9
MAX	90	199	825	1860	33	892	98	248	27	305	202	30
MIN	7.1	13	18	21	18	18	22	20	11	9.3	8.1	12
CFSM	.82	1.98	3.86	6.26	1.00	5.80	1.34	2.47	.66	1.24	.79	.65
IN.	.95	2.21	4.45	7.21	1.05	6.71	1.50	2.85	.73	1.42	.91	.73

CAL YR 1977 TOTAL 12871.4 MEAN 35.3 MAX 825 MIN 5.1 CFSM 1.45 IN 19.70
WTR YR 1978 TOTAL 20068.5 MEAN 55.0 MAX 1860 MIN 7.1 CFSM 2.26 IN 30.72

01496000 NORTHEAST CREEK AT LESLIE, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
NOV						
04...	108	150	7.6	20.0	15.0	10.6
DEC						
06...	45	190	7.9	15.0	7.0	11.8
21...	425	160	7.8	14.0	13.0	11.0
MAR						
06...	33	130	8.2	4.5	2.5	8.5
APR						
18...	25	118	9.0	22.0	15.0	--
MAY						
11...	34	128	7.4	21.0	16.0	--
JUN						
07...	16	130	7.3	20.5	18.0	9.1
JUL						
13...	12	135	7.9	24.0	21.0	8.9
AUG						
31...	14	125	8.2	27.0	24.0	9.6

01496200 PRINCIPIO CREEK NEAR PRINCIPIO FURNACE, MD

LOCATION.--Lat 39°37'34", long 76°02'27", Cecil County, Hydrologic Unit 02060002, on left bank, 55 ft (17 m) downstream from bridge on Belvedere Road, 3.5 mi (5.6 km) north of Principio Furnace, and 4.9 mi (7.9 km) upstream from mouth.

DRAINAGE AREA.--9.03 mi² (23.39 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 215 ft (65.5 m).

REMARKS.--Water-stage records good except those for December, January, and February, which are poor.

AVERAGE DISCHARGE.--11 years, 14.0 ft³/s (0.396 m³/s), 21.05 in/yr (535 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,060 ft³/s (200 m³/s) Aug. 4, 1969, gage height, 9.26 ft (2.822 m), from rating curve extended above 170 ft³/s (4.81 m³/s) on basis of slope-area measurements at gage heights 8.89 ft (2.710 m) and 9.26 ft (2.822 m); minimum, 1.6 ft³/s (0.045 m³/s) Oct. 4, 5, 1968, July 17, 18, 1969.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft³/s (8.5 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 18	Unknown	Unknown		Unknown		Mar. 26	1830	1010	28.6	6.25	1.905
Jan. 26	0615	*2120	60.0	7.90	2.408	July 3	1515	557	15.8	5.02	1.530
Mar. 14	1545	1070	30.3	6.40	1.951	Aug. 28	0330	481	13.6	4.77	1.454

Minimum discharge, 2.3 ft³/s (0.065 m³/s) Oct. 4, 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	6.0	61	9.4	10	7.7	14	9.3	10	8.0	9.2	8.3
2	2.7	6.2	14	9.0	10	7.7	13	9.2	9.9	8.0	8.0	6.1
3	2.5	8.4	12	8.4	12	8.2	13	9.1	10	144	7.9	5.7
4	2.4	16	11	11	8.8	8.0	14	12	11	20	7.5	5.4
5	2.4	7.1	13	8.2	9.9	8.7	13	14	11	11	8.9	5.2
6	2.5	8.7	15	7.6	6.7	9.9	13	11	11	9.2	9.9	5.0
7	2.6	64	10	8.4	13	9.6	13	11	10	8.4	8.5	4.9
8	2.6	14	7.6	17	12	7.8	12	13	17	7.9	8.9	4.9
9	17	9.5	8.0	130	11	8.3	12	70	13	7.7	7.9	4.9
10	4.8	10	7.8	17	10	9.6	12	19	11	7.5	9.6	4.5
11	3.5	17	7.4	15	10	25	12	12	10	7.1	8.8	4.7
12	3.2	8.0	7.0	13	9.6	57	12	11	10	6.8	10	6.0
13	3.1	7.4	6.8	13	9.0	102	11	11	11	6.7	8.4	7.7
14	6.2	6.5	26	68	9.4	247	11	56	10	6.9	8.0	4.5
15	22	6.5	40	23	9.0	72	10	70	9.9	7.4	8.1	4.4
16	6.8	6.3	14	19	8.6	26	10	58	9.8	7.1	7.8	4.4
17	8.9	8.3	10	23	8.6	23	10	30	10	7.1	7.6	4.2
18	6.3	8.9	250	120	8.6	23	10	32	10	6.8	7.0	4.2
19	5.7	7.3	150	30	8.2	66	15	16	9.8	6.5	6.9	4.3
20	5.4	7.1	27	19	8.8	25	29	14	7.8	6.7	6.9	4.0
21	5.1	7.2	70	14	8.0	23	13	13	8.2	7.0	6.3	3.9
22	5.0	7.9	22	13	7.8	30	12	12	11	7.2	6.2	4.0
23	5.0	32	13	12	7.4	15	11	11	8.3	7.5	6.3	4.0
24	5.0	12	12	12	7.8	13	11	15	8.3	7.3	6.1	3.8
25	5.0	12	25	220	8.0	13	10	13	8.8	7.5	6.3	3.8
26	8.0	58	15	595	8.2	302	10	11	8.9	7.7	6.5	3.6
27	11	11	13	25	8.2	129	10	11	9.7	7.5	6.5	3.7
28	7.7	11	12	16	9.6	27	10	11	9.7	8.2	70	3.7
29	6.3	11	10	13	---	19	9.7	11	8.7	7.5	7.4	3.6
30	6.0	13	9.0	12	---	16	9.6	11	8.6	7.4	6.1	3.4
31	5.8	---	9.0	11	---	15	---	10	---	7.7	6.8	---
TOTAL	183.0	408.3	907.6	1512.0	258.2	1353.5	365.3	616.6	302.4	383.3	300.3	140.8
MEAN	5.90	13.6	29.3	48.8	9.22	43.7	12.2	19.9	10.1	12.4	9.69	4.69
MAX	22	64	250	595	13	302	29	70	17	144	70	8.3
MIN	2.4	6.0	6.8	7.6	6.7	7.7	9.6	9.1	7.8	6.5	6.1	3.4
CFSM	.65	1.51	3.25	5.40	1.02	4.84	1.35	2.20	1.12	1.37	1.07	.52
IN.	.75	1.68	3.74	6.23	1.06	5.58	1.50	2.54	1.25	1.58	1.24	.58

CAL YR 1977 TOTAL 4234.8 MEAN 11.6 MAX 250 MIN 2.1 CFSM 1.29 IN 17.44
WTR YR 1978 TOTAL 6731.3 MEAN 18.4 MAX 595 MIN 2.4 CFSM 2.04 IN 27.73

01496200 PRINCIPIO CREEK NEAR PRINCIPIO FURNACE, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)
NOV 03...	6.4	180	7.6	16.0	13.0	10.0
DEC 06...	13	175	7.9	7.5	6.0	8.4
JAN 20...	21	128	6.9	3.0	1.0	--
MAR 06...	15	170	7.7	1.0	.5	8.9
APR 18...	10	119	8.6	17.0	15.5	--
JUN 09...	13	120	7.5	18.5	17.0	9.6
JUL 13...	6.8	130	7.7	22.5	20.5	9.7
SEP 01...	9.5	142	8.0	25.5	23.0	10.2

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD

LOCATION.--Lat 39°39'31", long 76°10'28", Harford County, Hydrologic Unit 02050306, at downstream side of Conowingo Dam, 1 mi (1.6 km) southwest of Conowingo, and 9.9 mi (15.9 km) upstream from mouth.

DRAINAGE AREA.--27,100 mi² (70,190 km²).

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 5.00 ft (1.524 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated by Conowingo Reservoir beginning October 1928, usable capacity, 55,070,000,000 gal (208.4 hm³); dead storage, 45,290,000,000 gal (171.4 hm³). Records do not include a small infrequent diversion above station to augment municipal supply of city of Baltimore. Records of diversion available from Baltimore Department of Public Works.

AVERAGE DISCHARGE.--11 years, 44,780 ft³/s (1,268 m³/s), 22.44 in/yr (570 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,130,000 ft³/s (32,000 m³/s) June 24, 1972, gage height, 36.83 ft (11.226 m); minimum, 144 ft³/s (4.08 m³/s) Mar. 2, 1969, gage height, 6.28 ft (1.914 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 377,000 ft³/s (10,700 m³/s) Jan. 28, gage height, 25.64 ft (7.815 m); minimum, 763 ft³/s (21.6 m³/s) July 25, gage height, 7.30 ft (2.225 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75000	30600	51800	47100	92000	25300	179000	44800	41500	8370	15500	16400
2	51900	29800	78400	50500	70400	24900	154000	29200	38000	3280	17700	8230
3	55800	33200	82800	53700	77800	24000	165000	27600	28200	33700	14900	5400
4	59900	31600	104000	43100	65600	19500	178000	32400	22400	15900	20800	3990
5	65400	24900	112000	31100	43700	8700	156000	30700	36500	27400	9270	15500
6	63900	24900	100000	37900	48900	21700	138000	20200	32200	29200	7580	11900
7	54100	44900	86900	38100	27900	22000	157000	20700	36000	24600	25700	15100
8	43400	77200	77000	19100	28600	19200	147000	32300	27700	14800	30000	15500
9	35600	133000	64100	69400	43700	21100	136000	39600	33300	5480	35700	889
10	43400	156000	54100	190000	40500	23600	138000	40000	25300	18700	41300	917
11	45400	158000	35600	199000	32900	16500	118000	38000	33600	15800	38000	9080
12	49900	164000	38800	169000	18500	9000	97300	40900	41200	17800	27800	12700
13	55400	163000	31400	134000	36800	27300	85200	34800	35100	13700	12600	10800
14	56000	140000	37400	107000	36600	44500	83500	50200	35900	16700	25100	10300
15	43800	110000	50100	80800	33700	76600	77500	141000	32600	6940	24600	11200
16	35100	94200	77600	74500	33900	147000	69700	235000	32200	6230	23600	4930
17	65500	78700	136000	60300	41900	169000	69200	224000	20700	22500	20000	1050
18	122000	73100	164000	63900	26300	137000	64200	206000	12300	18800	18800	11500
19	183000	68900	178000	54600	19000	122000	56200	202000	26100	19600	6640	12200
20	173000	60600	159000	46400	30400	122000	57800	175000	23700	13800	1550	13400
21	166000	64200	159000	36700	22700	107000	50400	135000	24000	17500	12200	20300
22	158000	70200	163000	27000	29300	145000	52200	113000	28900	7560	14300	22000
23	121000	65800	135000	40000	23900	210000	52000	94700	26600	2330	11200	9750
24	99700	31000	102000	34000	21400	270000	63400	83800	15900	11900	11600	3890
25	85100	42600	87800	50600	18300	258000	63700	79600	9240	10300	11400	21900
26	74600	44100	87400	97700	15300	237000	57700	88400	22500	12300	1050	16800
27	63800	39100	93700	193000	25900	264000	47800	80100	34200	14400	1330	14600
28	61900	50500	89400	246000	27200	282000	44500	64000	22700	14200	19300	17000
29	49600	45100	77900	206000	---	260000	35500	59500	22600	2840	13000	17100
30	27300	45900	73500	164000	---	234000	28600	61200	23600	997	11200	922
31	42700	---	60600	124000	---	204000	---	50200	---	10600	14000	---
TOTAL	2327200	2195100	2848300	2788500	1033100	3551900	2822400	2573900	844740	438227	537720	335248
MEAN	75070	73170	91880	89950	36900	114600	94080	83030	28160	14140	17350	11170
MAX	183000	164000	178000	246000	92000	282000	179000	235000	41500	33700	41300	22000
MIN	27300	24900	31400	19100	15300	8700	28600	20200	9240	997	1050	889
CFSM	2.77	2.70	3.39	3.32	1.36	4.23	3.47	3.06	1.04	.52	.64	.41
IN.	3.19	3.01	3.91	3.83	1.42	4.88	3.87	3.53	1.16	.60	.74	.46

CAL YR 1977 TOTAL 18344114 MEAN 50260 MAX 234000 MIN 984 CFSM 1.86 IN 25.18
WTR YR 1978 TOTAL 22296335 MEAN 61090 MAX 282000 MIN 889 CFSM 2.25 IN 30.61

01580000 DEER CREEK AT ROCKS, MD

LOCATION.--Lat 39°37'49", long 76°24'13", Harford County, Hydrologic Unit 02050306, on right bank 0.3 mi (0.5 km) upstream from bridge on Cherry Hill Road, 0.8 mi (1.3 km) southeast of Rocks, 1.2 mi (1.9 km) upstream from Stirrup Run, and 23.5 mi (37.8 km) upstream from mouth.

DRAINAGE AREA.--94.4 mi² (244.5 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1926 to current year. Monthly discharge only for November and December 1926, published in WSP 1302.

REVISED RECORDS.--WSP 726: Drainage area. WSP 1502: 1927-36 (maximum and minimum only 1927-29, maximum only 1930-32, 1936).

GAGE.--Water-stage recorder. Concrete control since Sept. 7, 1938. Datum of gage is 250.40 ft (76.322 m) Baltimore city datum.

REMARKS.--Records good. Some regulation at low flow by mills above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--52 years, 124 ft³/s (3.512 m³/s), 17.84 in/yr (453 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,600 ft³/s (385 m³/s) Aug. 23, 1933, gage height, 17.7 ft (5.39 m), from floodmarks, from rating curve extended above 3,000 ft³/s (85.0 m³/s) on basis of slope-area measurements at gage heights 13.3 ft (4.05 m) and 17.7 ft (5.39 m); minimum, 8 ft³/s (0.23 m³/s) Dec. 16, 1930, Jan. 26, 1939, result of regulation; minimum daily, 8.6 ft³/s (0.24 m³/s) Sept. 11, 12, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1888, that of Aug. 23, 1933.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,900 ft³/s (53 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 18	1400	3030	85.8	7.60	2.316	Mar. 14	1800	3710	105	8.53	2.600
Jan. 26	0830	*7770	220	13.44	4.097	Mar. 26	1830	4530	128	9.63	2.935

Minimum discharge, 36 ft³/s (1.02 m³/s) Oct. 4, 5, 6, gage height, 1.99 ft (0.607 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	47	268	126	225	115	317	137	146	94	103	109
2	42	50	135	125	205	111	278	134	139	98	96	78
3	38	56	111	116	190	116	254	132	149	496	82	69
4	36	101	99	114	175	120	260	145	151	220	82	65
5	36	70	102	112	170	118	265	183	139	140	93	62
6	37	63	124	110	160	114	229	154	136	119	98	61
7	40	171	94	111	155	113	230	143	135	108	111	60
8	38	261	88	157	150	105	209	142	143	103	84	59
9	97	111	84	622	150	105	199	216	138	99	76	60
10	72	134	82	188	145	108	196	185	126	95	82	58
11	49	293	80	175	142	131	194	150	120	92	103	58
12	45	109	78	160	140	237	196	141	116	88	126	58
13	42	89	76	149	138	443	182	146	127	86	85	74
14	69	79	98	337	136	1430	173	337	116	87	79	60
15	224	77	149	187	134	915	167	655	111	103	75	59
16	71	82	97	155	134	369	163	458	107	94	73	59
17	71	84	87	173	134	244	161	341	110	92	70	57
18	62	81	1190	596	133	212	159	288	112	86	66	58
19	54	70	490	223	133	494	206	249	107	82	65	57
20	51	67	287	190	130	335	256	222	100	81	62	56
21	48	65	566	180	128	286	187	205	230	79	60	56
22	46	69	299	167	126	299	171	188	212	77	59	57
23	44	147	229	160	124	252	161	182	123	75	59	56
24	42	104	203	155	122	230	158	193	111	71	58	54
25	42	90	218	875	121	211	154	185	106	78	57	53
26	46	195	176	4040	120	1800	150	168	105	80	58	52
27	63	104	160	705	119	1140	148	162	109	78	60	52
28	61	94	150	440	116	715	145	161	125	117	136	52
29	52	96	145	323	---	583	141	157	101	81	81	51
30	49	99	140	270	---	428	140	157	98	75	66	51
31	47	---	131	246	---	358	---	150	---	77	104	---
TOTAL	1752	3158	6236	11687	4055	12237	5849	6466	3848	3351	2509	1811
MEAN	56.5	105	201	377	145	395	195	209	128	108	80.9	60.4
MAX	224	293	1190	4040	225	1800	317	655	230	496	136	109
MIN	36	47	76	110	116	105	140	132	98	71	57	51
CFSM	.60	1.11	2.13	3.99	1.54	4.18	2.07	2.21	1.36	1.14	.86	.64
IN.	.64	1.24	2.46	4.61	1.60	4.82	2.30	2.55	1.52	1.32	.99	.71

CAL YR 1977 TOTAL 40212 MEAN 110 MAX 1240 MIN 36 CFSM 1.17 IN 15.85
WTR YR 1978 TOTAL 62959 MEAN 172 MAX 4040 MIN 36 CFSM 1.82 IN 24.81

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1972-73, 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT									
07...	1400	40	95	7.7	15.0	13.0	--	--	--
NOV									
07...	1400	39	--	--	15.0	13.0	--	--	--
21...	1130	66	--	--	8.0	6.5	--	--	--
21...	1135	65	--	--	8.0	6.5	--	--	--
21...	1145	64	110	7.1	8.0	6.5	--	--	--
DEC									
19...	1440	428	--	--	3.0	4.0	--	--	--
19...	1445	428	--	--	3.0	4.0	--	--	--
MAR									
07...	1300	123	--	--	2.5	2.0	--	--	--
07...	1330	123	--	--	2.5	2.0	--	--	--
MAY									
04...	1100	137	90	7.8	13.0	12.0	--	--	--
04...	1110	137	--	--	13.0	12.0	--	--	--
JUN									
20...	1330	101	90	7.9	26.0	22.0	--	--	--
SEP									
12...	1345	59	95	8.6	25.0	21.0	--	--	--
22...	0945	57	105	7.9	22.0	19.5	10	33	13

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT									
07...	--	--	--	--	--	--	--	--	--
NOV									
07...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
DEC									
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
MAR									
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
MAY									
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
JUN									
20...	--	--	--	--	--	--	--	--	--
SEP									
12...	--	--	--	--	--	--	--	--	--
22...	7.5	3.5	4.9	1.4	25	21	3.3	8.8	.2

01580000 DEER CREEK AT ROCKS, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT									
07...	--	--	--	--	--	--	--	--	--
NOV									
07...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
DEC									
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
MAR									
07...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
MAY									
04...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
JUN									
20...	--	--	--	--	--	--	--	--	--
SEP									
12...	--	--	--	--	--	--	--	--	--
22...	7.4	64	49	2.3	.01	190	0	30	20

01581700 WINTERS RUN NEAR BENSON, MD

LOCATION.--Lat 39°31'12", long 76°22'24", Harford County, Hydrologic Unit 02060003, on left bank 30 ft (9 m) downstream from bridge on U.S. Highway 1, 0.1 mi (0.2 km) upstream from Heavenly Waters, 1.2 mi (1.9 km) northeast of Benson, 1.8 mi (2.9 km) southwest of Bel Air, and 10.5 mi (16.9 km) upstream from mouth.

DRAINAGE AREA.--34.8 mi^2 (90.1 km^2).

PERIOD OF RECORD.--August 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 195 ft (59 m), from topographic map.

REMARKS.--Records good except those for February, which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--11 years, 55.2 ft^3/s (1.563 m^3/s), 21.54 in/yr (547 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,600 ft^3/s (215 m^3/s) June 22, 1972, gage height, 11.60 ft (3.536 m); minimum, 7.2 ft^3/s (0.20 m^3/s) July 5, 1969.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft^3/s (28 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 18	1230	2360	66.8	6.58	2.006	Mar. 14	1515	2250	63.7	6.43	1.960
Jan. 9	0400	1710	48.4	5.66	1.725	Mar. 26	1645	3020	85.5	7.37	2.246
Jan. 26	0615	*4950	140	9.45	2.880	Aug. 11	2215	1520	43.0	5.35	1.631

Minimum discharge, 9.8 ft^3/s (0.28 m^3/s) Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	17	111	41	70	44	91	51	47	30	40	59
2	15	19	47	39	64	44	83	51	45	33	32	29
3	12	29	37	38	60	44	82	51	46	321	31	26
4	12	43	33	37	56	42	87	68	48	91	30	23
5	11	26	37	37	54	42	85	79	44	55	39	22
6	12	27	40	36	53	40	77	62	42	45	36	22
7	12	113	31	36	51	40	80	57	43	40	59	22
8	12	110	30	82	50	40	73	59	50	37	38	23
9	42	41	29	376	50	38	69	158	44	37	30	24
10	21	65	28	60	49	44	69	98	40	36	47	22
11	16	81	26	54	49	101	69	66	39	33	226	22
12	15	37	25	52	49	152	70	60	37	32	111	29
13	13	30	24	50	48	188	65	66	43	31	40	41
14	33	27	48	156	48	509	61	215	37	32	33	22
15	55	26	58	67	48	197	60	359	36	35	30	22
16	22	24	35	55	47	118	59	137	36	33	29	22
17	23	27	31	109	47	102	58	124	38	33	27	21
18	19	27	688	270	47	91	58	96	39	30	25	20
19	18	23	197	84	46	145	82	78	36	29	23	20
20	17	22	99	72	46	111	98	69	34	29	24	19
21	16	22	173	60	46	100	68	63	72	28	21	19
22	16	24	86	56	46	99	62	59	67	27	21	20
23	16	66	65	54	45	82	59	56	40	27	21	19
24	15	38	59	62	45	77	58	62	36	25	21	18
25	15	40	73	400	45	72	57	59	35	36	20	18
26	22	104	53	1670	45	891	56	53	35	29	21	18
27	36	39	49	120	45	352	55	52	40	49	85	18
28	25	34	46	88	44	151	54	52	42	54	116	19
29	20	36	44	84	---	118	52	51	33	30	31	16
30	19	44	43	80	---	102	52	50	31	28	26	17
31	17	---	42	73	---	95	---	48	---	35	31	---
TOTAL	609	1261	2387	4498	1393	4271	2049	2609	1255	1410	1364	692
MEAN	19.6	42.0	77.0	145	49.8	138	68.3	84.2	41.8	45.5	44.0	23.1
MAX	55	113	688	1670	70	891	98	359	72	321	226	59
MIN	11	17	24	36	44	38	52	48	31	25	20	16
CFSM	.56	1.21	2.21	4.17	1.43	3.97	1.96	2.42	1.20	1.31	1.26	.66
IN.	.65	1.35	2.55	4.81	1.49	4.57	2.19	2.79	1.34	1.51	1.46	.74

CAL YR 1977 TOTAL 14667.8 MEAN 40.2 MAX 688 MIN 9.8 CFSM 1.16 IN 15.68

WTR YR 1978 TOTAL 23798.0 MEAN 65.2 MAX 1670 MIN 11 CFSM 1.87 IN 25.44

01582000 LITTLE FALLS AT BLUE MOUNT, MD

LOCATION.--Lat 39°36'16", long 76°37'16", Baltimore County, Hydrologic Unit 02060003, on left bank at downstream side of Pennsylvania Railroad bridge, 0.2 mi (0.3 km) north of Blue Mount, 0.6 mi (1.0 km) upstream from mouth, 0.9 mi (1.4 km) downstream from First Mine Branch, and 1.2 mi (1.9 km) south of White Hall.

DRAINAGE AREA.--52.9 mi^2 (137.0 km^2).

PERIOD OF RECORD.--June 1944 to current year.

REVISED RECORDS.--WSP 111: 1944(M), 1945-47(P).

GAGE.--Water-stage recorder. Altitude of gage is 305 ft (93 m), from topographic map.

REMARKS.--Records good. Slight diurnal fluctuation at low flow caused by mill above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--34 years, 68.5 ft^3/s (1.940 m^3/s), 17.58 in/yr (447 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,280 ft^3/s (234 m^3/s) June 22, 1972, gage height, 18.54 ft (5.651 m), from rating curve extended above 1,300 ft^3/s (36.8 m^3/s) on basis of contracted-opening measurement of peak flow; minimum, 1.9 ft^3/s (0.054 m^3/s) Aug. 29, 1966; minimum daily, 4.5 ft^3/s (0.13 m^3/s) Sept. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 1,000 ft^3/s (28 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 18	1330	1460	41.3	5.03	1.533	Mar. 14	1730	2060	58.3	6.22	1.896
Jan. 25	1700	1090	30.9	4.23	1.289	Mar. 26	1700	1890	53.5	5.88	1.792
Jan. 26	1100	*3790	107	9.34	2.847						

Minimum discharge, 22 ft^3/s (0.62 m^3/s) Oct. 3, 4, 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	33	144	61	110	67	148	85	79	50	68	91
2	28	35	68	59	105	64	136	84	76	55	49	50
3	23	36	56	55	100	68	131	84	82	211	44	45
4	22	60	51	54	96	66	132	97	80	96	43	42
5	22	40	61	54	93	63	138	105	75	71	57	39
6	25	37	62	54	89	62	125	95	72	62	55	38
7	25	84	48	54	87	62	123	89	74	57	54	37
8	24	97	44	81	86	61	116	91	77	54	44	37
9	64	58	44	234	85	59	113	118	77	53	40	37
10	36	107	41	97	84	62	111	98	68	51	43	36
11	28	105	41	90	83	85	111	88	66	49	41	36
12	27	51	40	85	82	132	111	85	64	47	59	37
13	25	44	40	79	81	229	106	91	71	46	43	43
14	54	39	60	138	80	704	101	255	63	46	41	36
15	131	36	74	80	79	412	99	250	61	49	39	36
16	44	35	50	77	78	199	98	190	60	48	37	35
17	59	38	45	92	77	148	96	153	64	47	35	35
18	42	38	515	238	75	131	96	134	63	44	33	35
19	38	33	216	99	73	250	125	120	59	42	33	34
20	37	32	143	90	72	182	140	110	56	42	31	33
21	34	34	268	82	72	168	109	103	63	40	30	34
22	33	37	140	77	71	159	102	96	73	40	30	34
23	32	82	109	74	70	137	98	94	58	39	29	33
24	30	52	97	85	69	125	98	101	56	37	29	32
25	30	46	104	455	69	119	94	95	54	57	28	32
26	37	84	82	1710	69	694	93	89	55	44	29	30
27	50	49	78	280	68	418	91	87	59	45	30	30
28	41	45	72	214	66	243	89	86	72	70	98	31
29	36	45	71	169	---	197	87	86	54	43	57	29
30	34	51	67	142	---	172	87	84	55	41	43	29
31	33	---	64	124	---	155	---	81	---	43	58	---
TOTAL	1168	1563	2995	5283	2269	5693	3304	3424	1986	1719	1350	1126
MEAN	37.7	52.1	96.6	170	81.0	184	110	110	66.2	55.5	43.5	37.5
MAX	131	107	515	1710	110	704	148	255	82	211	98	91
MIN	22	32	40	54	66	59	87	81	54	37	28	29
CFSM	.71	.99	1.83	3.21	1.53	3.48	2.08	2.08	1.25	1.05	.82	.71
IN.	.82	1.10	2.11	3.72	1.60	4.00	2.32	2.41	1.40	1.21	.95	.79

CAL YR 1977 TOTAL 20642 MEAN 56.6 MAX 568 MIN 19 CFSM 1.07 IN 14.52
WTR YR 1978 TOTAL 31880 MEAN 87.3 MAX 1710 MIN 22 CFSM 1.65 IN 22.42

01583000 SLADE RUN NEAR GLYNDON, MD

LOCATION.--Lat 39°29'40", long 76°47'45", Baltimore County, Hydrologic Unit 02060003, on left bank at downstream side of bridge on Longnecker Road, 1.1 mi (1.8 km) upstream from mouth, 1.6 mi (2.6 km) northeast of Glyndon, and 2.6 mi (4.2 km) northeast of Reisterstown.

DRAINAGE AREA.--2.09 mi² (5.41 km²).

PERIOD OF RECORD.--September 1947 to current year.

REVISED RECORD.--WSP 1502: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 425.25 ft (129.616 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years, 2.35 ft³/s (0.067 m³/s), 15.27 in/yr (388 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 515 ft³/s (14.6 m³/s) June 22, 1972, gage height, 4.80 ft (1.463 m), from rating curve extended above 80 ft³/s (2.27 m³/s) on basis of slope-area measurement at gage height 3.96 ft (1.207 m); no flow many days in August and September 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 144 ft³/s (4.08 m³/s) Jan. 26, gage height, 3.59 ft (1.094 m), no other peaks above base of 90 ft³/s (2.5 m³/s); minimum, 0.45 ft³/s (0.013 m³/s) Oct. 1, 4, 5, 6, gage height, 2.00 ft (0.610 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.53	.78	5.2	2.1	4.0	2.0	4.4	2.6	2.5	1.6	2.2	2.7
2	.70	.81	2.5	2.0	3.6	1.9	4.1	2.6	2.4	2.1	1.8	1.7
3	.53	1.4	2.0	1.8	3.4	2.0	4.1	2.6	2.6	11	1.7	1.5
4	.50	2.8	1.8	1.8	3.0	2.0	4.3	3.7	2.5	4.0	1.7	1.4
5	.48	1.4	2.0	1.8	2.8	1.9	4.2	3.8	2.3	2.8	2.7	1.3
6	.56	1.4	1.9	1.8	2.8	1.9	4.0	3.3	2.2	2.3	2.5	1.3
7	.53	4.6	1.6	1.9	2.8	1.9	4.0	2.9	2.3	2.1	1.8	1.3
8	.53	4.0	1.5	3.3	2.5	1.9	3.7	3.2	2.3	2.0	1.6	1.3
9	1.8	1.9	1.6	9.4	2.4	1.9	3.6	5.7	2.2	2.0	1.5	1.3
10	.78	2.5	1.4	3.0	2.2	2.0	3.6	4.2	2.0	1.9	1.9	1.2
11	.66	2.5	1.2	2.4	2.2	3.6	3.6	3.3	1.9	1.8	3.6	1.2
12	.60	1.7	1.3	2.1	2.2	5.5	3.6	3.0	1.9	1.7	6.0	1.7
13	.60	1.5	1.4	2.5	2.2	8.2	3.3	4.4	2.2	1.7	2.8	2.4
14	1.8	1.3	2.3	4.3	2.2	20	3.1	7.1	2.0	1.8	2.4	1.5
15	2.5	1.3	2.3	2.7	2.1	9.5	2.9	7.4	1.9	1.8	2.2	1.4
16	1.1	1.2	1.7	2.2	2.1	5.5	3.0	6.8	1.9	1.8	2.1	1.4
17	1.7	1.4	1.6	3.6	2.1	4.7	3.0	4.9	2.2	1.8	1.9	1.3
18	.92	1.3	22	5.5	2.2	4.3	3.0	4.3	2.0	1.6	1.7	1.3
19	.79	1.2	7.5	3.0	2.1	8.2	4.4	3.9	1.9	1.6	1.7	1.3
20	.81	1.1	5.0	2.8	2.1	6.0	4.4	3.6	1.8	1.5	1.5	1.3
21	.70	1.2	8.0	2.7	2.1	5.7	3.5	3.3	2.4	1.5	1.4	1.3
22	.69	1.3	4.3	2.4	2.0	4.9	3.2	3.1	2.5	1.5	1.4	1.3
23	.64	3.2	3.5	2.2	1.9	4.3	3.0	3.0	1.9	1.4	1.3	1.2
24	.63	1.9	3.2	2.4	1.9	4.0	3.0	3.2	1.8	1.3	1.3	1.2
25	.63	1.8	3.3	17	2.0	3.9	2.8	3.0	1.7	4.1	1.3	1.2
26	1.1	2.9	2.7	50	2.1	20	2.8	2.7	1.8	1.9	1.4	1.1
27	2.4	1.7	2.3	8.5	2.0	12	2.8	2.7	2.0	1.7	1.4	1.1
28	1.2	1.6	2.2	6.5	2.0	6.1	2.7	2.7	2.2	1.8	3.4	1.1
29	.96	1.9	2.1	5.5	---	5.1	2.7	2.8	1.8	1.5	1.8	1.0
30	.85	2.5	2.1	4.9	---	4.7	2.7	2.7	1.7	1.4	1.6	1.1
31	.79	---	2.1	4.5	---	4.5	---	2.6	---	1.8	1.9	---
TOTAL	29.01	56.09	103.6	166.6	67.0	170.1	103.5	115.1	62.8	68.8	63.5	41.4
MEAN	.94	1.87	3.34	5.37	2.39	5.49	3.45	3.71	2.09	2.22	2.05	1.38
MAX	2.5	4.6	22	50	4.0	20	4.4	7.4	2.6	11	6.0	2.7
MIN	.48	.78	1.2	1.8	1.9	1.9	2.7	2.6	1.7	1.3	1.3	1.0
CFSM	.45	.90	1.60	2.57	1.14	2.63	1.65	1.78	1.00	1.06	.98	.66
IN.	.52	1.00	1.84	2.96	1.19	3.03	1.84	2.05	1.12	1.22	1.13	.74

CAL YR 1977 TOTAL 619.95 MEAN 1.70 MAX 22 MIN .38 CFSM .81 IN 11.03
WTR YR 1978 TOTAL 1047.50 MEAN 2.87 MAX 50 MIN .48 CFSM 1.37 IN 18.64

01583500 WESTERN RUN AT WESTERN RUN, MD

LOCATION.--Lat 39°30'38", long 76°40'37", Baltimore County, Hydrologic Unit 02060003, on right bank 100 ft (30 m) downstream from bridge on Western Run Road, 0.3 mi (0.5 km) southeast of Western Run, 2.5 mi (4.0 km) northwest of Cockeysville, 3.2 mi (5.1 km) upstream from Beaverdam Run, and 5.0 mi (8.0 km) upstream from mouth.

DRAINAGE AREA.--59.8 mi² (154.9 km²).

PERIOD OF RECORD.--September 1944 to current year.

REVISED RECORDS.--WSP 1502: 1945-46, 1948(M).

GAGE.--Water-stage recorder. Datum of gage is 262.78 ft (80.095 m) Baltimore County datum.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--34 years, 68.4 ft³/s (1.937 m³/s), 15.53 in/yr (394 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,000 ft³/s (1,080 m³/s) June 22, 1972, gage height, 26.0 ft (7.92 m), from floodmarks, from rating curve extended above 3,200 ft³/s (90.6 m³/s) on basis of slope-area measurement and contracted-opening measurement at gage height 26.0 ft (7.92 m); minimum, 2.4 ft³/s (0.068 m³/s) Sept. 12, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft³/s (28 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 18	1330	1980	56.1	5.70	1.737	Mar. 14	1830	2240	63.4	6.17	1.881
Jan. 25	1745	1470	41.6	4.79	1.460	Mar. 26	1800	2050	58.1	5.84	1.780
Jan. 26	0900	*4370	124	9.07	2.765						

Minimum discharge, 18 ft³/s (0.51 m³/s) Oct. 4, 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	32	162	72	117	68	136	79	75	49	58	75
2	23	32	76	68	104	66	124	77	72	55	49	42
3	20	40	62	66	100	70	122	77	75	314	45	39
4	18	50	54	64	94	67	124	94	75	122	44	37
5	18	40	57	64	94	64	126	106	70	79	65	35
6	19	35	63	64	90	63	116	91	67	66	70	34
7	20	100	50	66	90	62	118	85	68	60	51	33
8	19	60	47	200	88	62	106	88	70	57	46	32
9	43	45	47	550	86	62	102	143	68	55	42	33
10	31	50	46	130	84	68	101	112	63	53	51	31
11	23	60	45	100	83	129	102	91	61	51	68	32
12	22	45	44	80	82	239	108	86	60	48	138	32
13	20	38	43	86	81	378	97	96	67	47	55	52
14	29	36	53	167	79	814	93	246	60	48	50	35
15	101	35	73	96	75	473	91	245	57	50	46	34
16	35	35	52	83	74	212	91	225	57	50	44	33
17	47	38	48	106	76	156	90	162	64	48	42	32
18	36	42	717	276	75	143	90	135	62	46	39	32
19	31	37	275	116	74	283	126	117	57	44	38	31
20	31	37	165	106	73	188	132	105	54	43	37	31
21	29	37	288	94	72	164	101	97	61	42	35	31
22	27	38	150	85	70	155	94	91	87	41	35	31
23	26	82	118	83	70	126	92	89	60	40	34	30
24	25	58	104	82	68	114	91	93	55	39	34	30
25	25	51	100	585	71	104	89	89	53	60	33	30
26	31	85	90	2020	74	788	86	82	54	47	35	28
27	80	54	80	298	72	533	90	81	58	47	35	28
28	50	50	75	195	68	233	83	80	70	63	61	29
29	40	51	72	160	---	187	82	82	52	43	39	27
30	35	61	70	136	---	157	80	80	54	41	35	28
31	32	---	72	124	---	143	---	77	---	47	43	---
TOTAL	1004	1454	3398	6422	2284	6371	3083	3401	1906	1895	1497	1027
MEAN	32.4	48.5	110	207	81.6	206	103	110	63.5	61.1	48.3	34.2
MAX	101	100	717	2020	117	814	136	246	87	314	138	75
MIN	18	32	43	64	68	62	80	77	52	39	33	27
CFSM	.54	.81	1.84	3.46	1.37	3.45	1.72	1.84	1.06	1.02	.81	.57
IN.	.62	.90	2.11	3.99	1.42	3.96	1.92	2.12	1.19	1.18	.93	.64

CAL YR 1977 TOTAL 19404 MEAN 53.2 MAX 717 MIN 15 CFSM .89 IN 12.07
WTR YR 1978 TOTAL 33742 MEAN 92.4 MAX 2020 MIN 18 CFSM 1.55 IN 20.99

01384050 LONG GREEN CREEK AT GLEN ARM, MD

LOCATION.--Lat 39°27'17", long 76°28'45", Baltimore County, Hydrologic Unit 02060003, on right bank 0.5 mi (0.8 km) downstream from bridge on Glen Arm Road, 0.6 mi (1.0 km) upstream from State Highway 147 (Harford Road), 0.8 mi (1.3 km) east of Glen Arm, and 1.6 mi (2.6 km) upstream from mouth.

DRAINAGE AREA.--9.40 mi^2 (24.3 km^2).

PERIOD OF RECORD.--October 1975 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 230 ft (70 m), from topographic map.

REMARKS.--Records good. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,610 ft^3/s (73.9 m^3/s) Aug. 27, 1978, gage height, 6.31 ft (1.923 m); minimum, 1.0 ft^3/s (0.028 m^3/s) Jan. 29, 1977, gage height, 0.79 ft (0.241 m), result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft^3/s (8.5 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 18	1230	576	16.3	4.16	1.268	Mar. 26	1530	509	14.4	4.05	1.234
Jan. 9	0400	423	12.0	3.86	1.177	June 21	1930	2180	61.7	6.00	1.829
Jan. 25	1500	319	9.03	3.56	1.085	Aug. 11	2330	805	22.8	4.47	1.362
Jan. 26	0500	1810	51.3	5.70	1.737	Aug. 27	1930	*2610	73.9	6.31	1.923
Mar. 14	1530	375	10.6	3.73	1.137						

Minimum discharge, 2.2 ft^3/s (0.062 m^3/s) Oct. 6, gage height, 0.94 ft (0.287 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	3.1	19	9.7	15	9.9	17	11	11	8.4	12	19
2	2.6	3.1	9.4	9.6	14	9.8	15	11	10	9.1	8.7	12
3	2.4	3.6	8.2	8.9	14	10	15	11	11	80	8.4	11
4	2.4	4.7	7.4	8.5	14	9.9	16	15	11	20	7.8	10
5	2.4	3.6	8.2	8.7	14	9.4	15	14	10	14	10	10
6	2.4	5.0	8.2	8.9	13	9.5	14	12	9.8	12	9.0	9.7
7	2.6	18	6.7	9.1	13	9.3	14	12	10	11	15	9.3
8	2.4	13	6.1	20	13	9.3	14	12	13	10	10	9.1
9	7.8	6.9	6.4	82	14	9.3	13	35	11	10	8.5	9.2
10	3.2	17	5.6	15	13	12	13	15	9.6	9.9	9.1	8.5
11	2.8	10	5.3	12	12	33	13	13	9.4	9.5	67	8.5
12	2.8	7.0	5.2	11	12	42	14	12	9.2	9.1	43	25
13	2.5	6.0	5.6	12	11	43	13	13	10	8.6	13	26
14	8.2	5.5	9.1	31	12	76	12	34	9.3	8.8	11	9.9
15	13	5.0	10	14	11	31	12	51	8.8	9.0	10	9.3
16	3.9	4.7	7.4	12	11	21	12	30	8.7	8.9	9.7	9.0
17	4.1	5.1	7.0	37	11	24	12	26	9.1	8.9	8.9	8.5
18	3.4	4.6	165	68	11	22	12	20	9.4	8.3	8.4	8.4
19	3.2	4.3	59	16	11	25	16	17	8.7	7.9	8.1	8.1
20	3.2	4.3	23	15	11	19	20	15	8.3	7.7	7.7	7.8
21	2.9	4.3	49	14	11	19	13	14	161	7.6	7.2	7.8
22	2.9	4.6	18	13	10	20	12	13	20	7.6	7.1	7.8
23	2.8	12	15	12	9.9	17	12	13	12	7.4	7.0	7.7
24	2.8	7.0	14	12	9.7	16	12	14	11	7.0	6.8	7.5
25	2.8	8.5	16	130	11	15	12	13	10	12	6.8	7.1
26	4.1	19	12	408	11	192	12	12	9.6	8.2	6.9	6.7
27	9.1	7.8	11	26	10	90	11	12	12	8.2	365	6.7
28	4.4	7.1	10	20	10	29	11	12	11	10	100	6.8
29	3.6	7.5	9.8	18	---	22	11	12	9.2	7.8	15	6.7
30	3.4	8.6	9.8	17	---	19	11	11	8.9	7.6	13	6.7
31	3.1	---	10	16	---	18	---	11	---	9.8	14	---
TOTAL	119.7	220.9	556.4	1094.4	332.6	891.4	399	516	462.0	364.3	834.1	299.8
MEAN	3.86	7.36	17.9	35.3	11.9	28.8	13.3	16.6	15.4	11.8	26.9	9.99
MAX	13	19	165	408	15	192	20	51	161	80	365	26
MIN	2.4	3.1	5.2	8.5	9.7	9.3	11	11	8.3	7.0	6.8	6.7
CFSM	.41	.78	1.90	3.76	1.27	3.06	1.42	1.77	1.64	1.26	2.86	1.06
IN.	.47	.87	2.20	4.33	1.32	3.53	1.58	2.04	1.83	1.44	3.30	1.19

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CAL YR 1977  TOTAL  3064.3   MEAN  8.40   MAX 165   MIN 2.4   CFSM  .89   IN 12.13
WTR YR 1978  TOTAL  6090.6   MEAN 16.7    MAX 408   MIN 2.4   CFSM 1.78   IN 24.10
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01585100 WHITEMARSH RUN AT WHITE MARSH, MD

LOCATION.--Lat 39°22'15", long 76°26'46", Baltimore County, Hydrologic Unit 02060003, on left bank at upstream side of bridge on State Highway 7, 1 mi (1.6 km) southwest of White Marsh, and 3 mi (4.8 km) upstream from mouth.

DRAINAGE AREA.--7.61 mi^2 (19.71 km^2).

PERIOD OF RECORD.--February 1959 to current year.

REVISED RECORDS.--WDR MD-DE-73-1: 1960(M), 1967-68, 1969(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 38.96 ft (11.875 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Low flow affected by operations of sand and gravel plant in vicinity of gage. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--19 years, 11.2 ft^3/s (0.317 m^3/s), 19.99 in/yr (508 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft^3/s (227 m^3/s) Aug. 1, 1971, gage height, 14.05 ft (4.282 m), from rating curve extended above 1,300 ft^3/s (36.8 m^3/s) on basis of computation of flow-through-culvert at gage height 10.04 ft (3.060 m) and computation of flow-through-culvert and over road at gage height 14.05 ft (4.282 m); no flow for part of Mar. 20, 1965, caused by construction work above station; minimum daily, 0.10 ft^3/s (0.003 m^3/s) Sept. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 750 ft^3/s (21 m^3/s) revised, and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 18	1145	1930	54.7	9.57	2.917	Mar. 26	1530	1330	37.7	6.95	2.118
Jan. 9	0400	1360	38.5	7.11	2.167	June 21	2015	902	25.5	4.91	1.497
Jan. 17	2215	980	27.8	5.26	1.603	Aug. 1	0030	1330	37.7	6.95	2.118
Jan. 26	0100	905	25.6	4.92	1.500	Aug. 11	2400	1360	38.5	7.09	2.161
Jan. 26	0515	1540	43.6	8.02	2.444	Aug. 27	2245	*3880	110	11.73	3.575

Minimum discharge, 1.2 ft^3/s (0.034 m^3/s) Oct. 5, 6, gage height, 1.30 ft (0.396 m); minimum daily discharge, 1.2 ft^3/s (0.034 m^3/s) Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	3.3	63	6.8	7.0	5.7	8.4	3.5	3.7	1.9	95	12
2	3.3	3.3	11	7.7	6.3	5.7	6.5	3.5	3.3	4.8	5.7	6.6
3	2.3	12	7.9	5.9	5.9	4.7	7.0	3.6	5.2	137	4.0	5.6
4	1.4	7.5	6.5	4.6	5.8	6.4	8.3	26	4.2	16	13	4.8
5	1.2	4.1	17	5.2	5.1	8.0	6.5	21	5.4	5.9	37	4.3
6	2.1	26	11	5.9	4.7	6.8	5.9	7.4	3.8	4.0	5.9	3.9
7	2.0	76	6.8	6.1	7.5	6.0	6.6	5.4	7.7	3.5	16	3.8
8	1.6	35	5.0	51	6.0	5.7	5.4	16	12	3.1	9.5	3.6
9	32	8.4	5.5	186	5.5	5.8	5.1	68	4.7	2.9	3.9	3.6
10	3.9	31	4.3	15	4.8	11	5.3	13	3.1	7.2	13	3.1
11	2.5	21	3.7	8.2	4.5	36	5.3	7.1	2.8	3.4	63	3.4
12	2.1	6.4	3.4	8.2	4.5	30	6.1	5.8	2.7	2.4	101	36
13	1.8	4.8	4.5	19	4.5	25	5.1	15	6.4	2.3	9.3	31
14	45	4.3	35	84	5.5	60	4.5	64	2.7	2.5	6.2	5.6
15	40	4.2	19	20	7.0	25	4.3	98	2.4	2.7	4.8	5.1
16	4.9	3.9	7.4	12	5.0	38	4.3	39	2.4	2.7	4.2	4.1
17	9.5	5.8	6.0	131	6.0	35	4.3	36	3.2	2.8	3.4	3.6
18	3.7	3.9	555	91	6.0	18	4.4	17	2.8	2.3	2.9	3.7
19	3.4	3.3	112	18	5.5	12	20	9.5	2.5	2.2	2.8	3.4
20	3.5	3.3	42	14	5.5	9.0	23	7.4	2.1	2.0	2.4	3.1
21	2.8	3.9	84	10	6.3	9.0	6.3	6.2	50	2.0	2.1	3.2
22	2.7	6.4	20	8.7	5.5	12	5.1	5.2	11	1.9	2.1	3.3
23	2.5	39	13	7.7	4.7	7.4	4.6	5.0	3.7	1.8	2.1	3.0
24	2.6	7.6	11	7.7	5.1	6.6	4.5	19	2.9	1.5	2.1	2.7
25	2.3	19	21	173	9.4	7.2	4.2	6.8	2.6	53	2.0	2.6
26	20	44	9.3	432	8.2	419	4.3	5.0	2.6	4.5	2.3	2.3
27	34	6.7	6.8	28	7.2	125	4.1	4.7	7.2	3.8	473	2.4
28	6.2	5.7	5.5	11	6.3	26	3.8	4.6	5.6	4.4	220	2.4
29	4.1	18	5.5	8.7	---	14	3.8	4.5	2.4	2.3	35	2.2
30	3.4	20	6.3	8.2	---	10	3.8	4.2	2.1	2.0	15	2.1
31	3.3	---	8.2	7.2	---	9.1	---	4.0	---	28	17	---
TOTAL	251.9	437.8	1116.6	1401.8	165.3	999.1	190.8	535.4	173.2	316.8	1175.7	176.5
MEAN	8.13	14.6	36.0	45.2	5.90	32.2	6.36	17.3	5.77	10.2	37.9	5.88
MAX	45	76	555	432	9.4	419	23	98	50	137	473	36
MIN	1.2	3.3	3.4	4.6	4.5	4.7	3.8	3.5	2.1	1.5	2.0	2.1
CFSM	1.07	1.92	4.73	5.94	.78	4.23	.84	2.27	.76	1.34	4.98	.77
IN.	1.23	2.14	5.46	6.85	.81	4.88	.93	2.62	.85	1.55	5.75	.86

CAL YR 1977 TOTAL 4273.48 MEAN 11.7 MAX 555 MIN .83 CFSM 1.54 IN 20.89
WTR YR 1978 TOTAL 6940.90 MEAN 19.0 MAX 555 MIN 1.2 CFSM 2.50 IN 33.92

01585200 WEST BRANCH HERRING RUN AT IDLEWYLDE, MD

LOCATION.--Lat 39°22'25", long 76°35'05", Baltimore County, Hydrologic Unit 02060003, on left bank 40 ft (12 m) downstream from bridge on Regester Avenue, at Idlewylde, 0.1 mi (0.2 km) north of Baltimore city limits, 1 mi (1.6 km) upstream from mouth, and 1.3 mi (2.1 km) east of State Highway 45.

DRAINAGE AREA.--2.13 mi^2 (5.52 km^2).

PERIOD OF RECORD.--July 1957 to May 1965, January 1966 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 285 ft (87 m), from topographic map. Prior to May 31, 1965, at site 40 ft (12 m) upstream at datum 3.24 ft (0.988 m) higher.

REMARKS.--Records good. Diurnal fluctuation (occasionally extensive) caused by ready-mixed concrete plant above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--19 years (water years 1958-64, 1967-78), 2.62 ft^3/s (0.0742 m^3/s), 16.70 in/yr (424 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,740 ft^3/s (49.3 m^3/s) Sept. 11, 1971, gage height, 6.80 ft (2.073 m), from rating curve extended above 90 ft^3/s (2.55 m^3/s) on basis of slope-area measurement at gage height 6.37 ft (1.942 m); no flow Aug. 14-24, 1957.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 290 ft^3/s (8.2 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 18	1000	316	8.95	3.55	1.082	Aug. 11	2215	370	10.5	3.76	1.146
Jan. 26	0315	407	11.5	3.89	1.186	Aug. 27	1900	409	11.6	3.90	1.189
June 21	1830	585	16.6	4.45	1.356	Aug. 27	2015	537	15.2	4.31	1.314
July 25	0700	463	13.1	4.08	1.244	Sept. 12	2200	430	12.2	3.97	1.210
July 31	2245	*716	20.3	4.81	1.466						

Minimum discharge, 0.05 ft^3/s (0.001 m^3/s) Oct. 3, gage height, 0.73 ft (0.223 m); minimum daily, 0.16 ft^3/s (0.005 m^3/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.57	.44	20	1.4	1.8	1.2	2.3	1.2	1.4	.89	4.7	2.8
2	.82	.51	2.0	2.0	1.8	1.1	2.1	1.2	1.3	4.3	1.2	1.1
3	.16	6.7	1.1	1.4	1.6	1.2	2.4	1.1	3.2	33	1.1	1.0
4	.21	1.5	.80	1.4	1.4	1.5	2.3	11	1.4	2.4	1.2	1.1
5	.24	.55	5.0	1.2	1.4	1.2	1.9	3.8	2.7	1.6	7.2	1.2
6	1.1	9.1	2.0	1.4	1.2	1.1	1.8	1.7	1.6	1.3	1.2	.85
7	.37	11	.90	1.8	1.3	1.1	2.2	1.5	11	1.2	3.6	.82
8	.60	3.1	.60	13	1.5	1.7	1.7	6.4	5.9	1.1	1.2	.79
9	16	1.1	1.3	20	1.5	2.6	1.7	9.3	1.5	1.1	1.6	.81
10	.42	7.8	.50	1.8	1.5	3.9	1.7	1.8	1.2	1.1	2.5	.79
11	.37	1.7	.45	1.5	1.4	6.8	2.7	1.5	1.1	.84	17	.65
12	.26	.88	.50	1.5	1.4	5.1	2.1	1.4	1.1	.68	4.8	17
13	.28	.72	.80	8.7	1.3	3.9	1.9	7.2	4.4	.65	1.4	2.6
14	22	.60	15	10	1.5	10	1.6	18	1.4	.69	1.1	.62
15	5.0	.61	1.7	2.4	1.5	3.2	1.6	20	1.0	.71	2.2	.72
16	3.4	.58	.97	1.9	1.3	5.3	1.5	7.4	1.0	6.4	1.1	.62
17	3.5	2.0	.92	18	1.7	4.2	3.3	5.0	2.1	1.0	.98	.53
18	.47	.55	84	11	1.4	2.4	6.0	3.1	1.1	.88	.90	.51
19	.86	.50	18	2.3	1.4	2.3	9.7	2.4	1.0	.81	.89	.49
20	.87	.50	8.4	2.3	1.2	1.9	6.9	2.2	.91	.78	.83	.47
21	.34	.80	16	2.1	1.1	2.4	2.6	2.0	19	.89	.77	.52
22	.37	2.0	2.9	1.8	1.1	2.0	1.5	2.3	1.9	1.1	.74	.52
23	.41	10	2.4	1.7	1.2	1.6	1.5	2.7	1.1	.76	.74	.52
24	.59	1.2	2.0	1.9	1.3	1.7	2.1	4.3	1.1	.67	.72	.45
25	.53	8.0	3.7	47	2.5	3.2	3.4	1.7	.99	16	.75	.39
26	15	13	1.9	53	2.0	55	1.4	1.6	.96	.98	.81	.39
27	4.4	1.5	1.7	4.1	1.4	18	1.3	1.6	3.6	.87	40	.41
28	.94	.80	1.4	3.0	1.2	6.0	1.4	1.5	3.5	.99	5.6	.40
29	.55	5.0	1.3	2.6	---	3.7	2.2	1.6	1.6	.76	1.3	.37
30	.49	8.0	1.5	2.2	---	2.7	1.2	1.6	.95	.77	1.2	.40
31	.42	---	1.4	2.0	---	2.6	---	1.5	---	23	5.2	---
TOTAL	81.54	100.74	201.14	226.4	40.9	160.6	76.0	129.6	81.01	108.22	114.53	39.84
MEAN	2.63	3.36	6.49	7.30	1.46	5.18	2.53	4.18	2.70	3.49	3.69	1.33
MAX	22	13	84	53	2.5	55	9.7	20	19	33	40	17
MIN	.16	.44	.45	1.2	1.1	1.1	1.2	1.1	.91	.65	.72	.37
CFSM	1.24	1.58	3.05	3.43	.69	2.43	1.19	1.96	1.27	1.64	1.73	.62
IN.	1.42	1.76	3.51	3.95	.71	2.80	1.33	2.26	1.41	1.89	2.00	.70

CAL YR 1977 TOTAL 922.87 MEAN 2.53 MAX 84 MIN .16 CFSM 1.19 IN 16.11
WTR YR 1978 TOTAL 1360.52 MEAN 3.73 MAX 84 MIN .16 CFSM 1.75 IN 23.75

01585300 STEMMERS RUN AT ROSSVILLE, MD

LOCATION.--Lat 39°20'28", long 76°29'17", Baltimore County, Hydrologic Unit 02060003, on left bank 500 ft (152 m) upstream from bridge on State Highway 7, at Rossville, 0.9 mi (1.4 km) upstream from Brien Run, and 2.1 mi (3.4 km) upstream from mouth.

DRAINAGE AREA.--4.46 mi² (11.55 km²).

PERIOD OF RECORD.--December 1958 to September 1972, October 1973 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 21.64 ft (6.596 m) Baltimore County datum. Prior to Sept. 30, 1972, at site on old channel about 550 ft (168 m) southeast of present site at datum 2.40 ft (0.732 m) lower.

REMARKS.--Records good. Slight diurnal fluctuation at times from unknown source. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--18 years (water years 1960-72, 1974-78), 6.59 ft³/s (0.187 m³/s), 20.07 in/yr (510 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,950 ft³/s (169 m³/s) Aug. 1, 1971, gage height, 11.34 ft (3.456 m), from high-water mark in well, site and datum then in use, from rating curve extended above 1,100 ft³/s (31.2 m³/s) on basis of contracted-opening and flow-over-road measurement of peak flow; minimum daily, 0.10 ft³/s (0.003 m³/s) many days in 1962, 1964, and 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft³/s (20 m³/s) revised, and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 18	1000	1480	41.9	4.50	1.372
Jan. 9	0315	1350	38.2	4.33	1.320
Jan. 17	2145	827	23.4	3.61	1.100
Jan. 25	2400	709	20.1	3.43	1.045
Jan. 26	0430	1300	36.8	4.27	1.301
Mar. 26	1415	1050	29.7	3.92	1.195
July 31	2345	924	26.2	3.74	1.140
Aug. 11	2330	1290	36.5	4.26	1.298
Aug. 27	2145	*1980	56.1	5.08	1.548

Minimum daily discharge, 0.30 ft³/s (0.008 m³/s) Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.69	.99	36	2.8	3.4	2.8	3.6	1.6	2.0	.80	22	3.3
2	3.2	1.0	4.8	3.2	3.0	2.5	3.0	1.5	2.0	3.9	2.0	1.8
3	.55	9.1	3.2	3.0	2.8	2.4	3.3	1.5	3.3	102	1.5	1.7
4	.30	4.4	2.6	2.0	2.5	3.2	3.8	17	2.2	5.2	37	1.5
5	.34	1.8	8.9	2.1	2.5	2.8	2.9	11	4.0	2.4	26	1.4
6	.90	22	5.0	2.4	2.3	2.8	2.7	3.5	2.2	1.8	2.8	1.3
7	.65	37	2.6	2.5	3.2	2.7	2.9	2.4	3.8	1.5	8.8	1.3
8	.43	17	1.9	36	2.7	2.7	2.4	9.5	6.3	1.4	4.2	1.2
9	25	4.1	2.3	128	2.6	3.1	2.3	48	2.2	1.3	2.7	1.2
10	1.7	23	1.6	11	2.4	9.1	2.3	6.5	1.5	1.3	12	1.1
11	.80	8.6	1.5	3.4	2.3	18	2.4	3.3	1.4	1.2	58	1.1
12	.61	2.8	1.5	2.9	2.2	14	2.6	2.7	1.3	.99	32	14
13	.50	2.2	2.4	16	2.2	12	2.1	7.7	4.0	.95	3.4	8.0
14	42	1.8	24	55	3.0	31	1.9	46	1.3	1.0	2.5	1.4
15	24	1.7	9.5	13	3.3	12	1.9	90	1.2	1.1	2.1	1.7
16	2.1	1.6	3.4	4.8	2.6	21	1.8	23	1.2	1.1	2.0	1.3
17	7.1	2.8	2.7	84	3.1	19	1.9	15	2.0	1.1	1.7	1.2
18	1.7	1.6	400	46	3.0	7.6	8.1	8.5	1.4	.89	1.5	1.1
19	1.4	1.2	70	8.8	3.0	5.5	15	5.1	1.2	.83	1.4	1.0
20	1.6	1.2	20	6.8	2.8	4.4	4.2	4.0	1.0	.80	1.2	.94
21	1.0	1.5	49	6.1	2.9	4.5	2.4	3.3	17	.83	1.1	.99
22	.87	4.6	8.2	5.5	2.4	5.7	2.0	2.9	4.2	.82	1.0	1.0
23	.78	23	5.3	4.2	2.4	3.6	2.0	3.0	1.3	.76	1.1	1.1
24	.75	3.7	4.5	4.1	2.7	3.3	2.1	11	1.1	.65	1.1	.93
25	.74	16	8.8	172	8.6	3.9	1.9	3.5	1.1	40	1.1	.93
26	22	23	3.8	272	8.6	317	1.9	2.7	1.0	1.8	1.1	.81
27	17	3.2	2.9	12	3.4	83	1.9	2.6	3.4	1.6	162	.83
28	2.8	2.7	2.5	5.6	2.7	9.6	1.9	2.6	4.8	2.3	43	.86
29	1.6	12	2.4	4.6	---	5.9	1.8	2.8	.99	.99	3.0	.75
30	1.2	16	2.9	4.0	---	4.5	1.7	2.4	.93	.92	2.1	.78
31	1.0	---	3.4	3.5	---	3.9	---	2.2	---	26	7.1	---
TOTAL	165.31	251.59	697.6	927.3	88.6	623.5	90.7	346.8	81.32	208.23	448.5	56.52
MEAN	5.33	8.39	22.5	29.9	3.16	20.1	3.02	11.2	2.71	6.72	14.5	1.88
MAX	42	37	400	272	8.6	317	15	90	17	102	162	14
MIN	.30	.99	1.5	2.0	2.2	2.4	1.7	1.5	.93	.65	1.0	.75
CFSM	1.20	1.88	5.05	6.70	.71	4.51	.68	2.51	.61	1.51	3.25	.42
IN.	1.38	2.10	5.82	7.73	.74	5.20	.76	2.89	.68	1.74	3.74	.47

CAL YR 1977 TOTAL 2502.77 MEAN 6.86 MAX 400 MIN .30 CFSM 1.54 IN 20.87
WTR YR 1978 TOTAL 3985.97 MEAN 10.9 MAX 400 MIN .30 CFSM 2.44 IN 33.24

01585400 BRIEN RUN AT STEMMERS RUN, MD

LOCATION.--Lat 39°20'01", long 76°28'23", Baltimore County, Hydrologic Unit 02060003, on right bank 0.2 mi (0.3 km) upstream from mouth and 0.3 mi (0.5 km) north of Stemmers Run.

DRAINAGE AREA.--1.97 mi^2 (5.10 km^2).

PERIOD OF RECORD.--May 1958 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 8.80 ft (2.681 m) Baltimore County datum.

REMARKS.--Records good except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--20 years, 2.53 ft^3/s (0.072 m^3/s), 17.44 in/yr (443 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,500 ft^3/s (99.1 m^3/s) Aug. 1, 1971, gage height, 10.75 ft (3.277 m), from high-water mark in well, from rating curve extended above 180 ft^3/s (5.10 m^3/s) on basis of computation of peak flow through culvert and over road at site 0.8 mile (1.3 km) upstream, adjusted for flow from intervening area; no flow at times many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 150 ft^3/s (4.2 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 18	1100	*520	14.7	5.09	1.551	Mar. 26	1615	365	10.3	4.22	1.286
Jan. 9	0330	201	5.69	3.09	0.942	Aug. 11	2330	217	6.15	3.21	0.978
Jan. 26	0445	372	10.5	4.26	1.298	Aug. 27	0015	475	13.5	4.86	1.481

Minimum discharge, 0.41 ft^3/s (0.012 m^3/s) many days in April, May, and September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.55	.72	18	.99	.70	.91	.75	.41	.67	.50	3.1	6.3
2	2.1	.81	2.4	1.2	.70	.84	.64	.41	.60	1.2	.94	.73
3	.47	2.3	1.3	.85	.66	.81	.72	.41	1.2	42	.76	.56
4	.48	1.2	1.0	.72	.62	1.1	.83	6.3	.70	2.7	6.6	.48
5	.46	.72	4.5	.72	.62	.96	.78	3.5	.95	1.1	11	.50
6	.55	7.3	2.7	.85	.62	.90	.65	.99	.69	.78	1.0	.64
7	.45	14	1.1	.99	.60	.91	.75	.72	1.6	.92	3.0	.56
8	.48	5.2	.69	16	.66	.93	.58	4.5	3.1	.67	1.5	.55
9	9.5	1.5	.91	38	.72	1.1	.50	26	.86	.60	1.3	.50
10	.79	7.6	.55	1.8	.69	3.8	.60	3.5	.65	.73	3.2	.50
11	.54	3.5	.50	.84	.61	6.7	.72	1.7	.60	.74	12	.50
12	.50	.99	.55	.72	.62	5.5	.75	1.2	.60	.80	16	2.9
13	.50	.72	.70	4.8	.59	4.5	.60	3.3	1.3	.63	1.2	2.1
14	13	.72	11	20	.71	9.5	.50	16	.60	.60	.86	.51
15	8.4	.72	5.2	3.3	.85	3.8	.41	30	.61	.60	.78	.51
16	.84	.66	1.6	1.5	.72	7.6	.41	8.5	.56	.89	1.1	.47
17	1.6	.99	1.1	22	.99	8.0	.41	6.7	.69	.55	.67	.41
18	.99	.72	141	23	.99	2.7	.50	3.3	.69	.50	.60	.44
19	.92	.60	26	3.3	1.1	1.7	4.7	1.7	.60	.52	.60	.46
20	.62	.60	8.0	2.7	.85	1.3	3.9	1.2	.60	.50	.60	.50
21	.51	.90	19	1.9	.79	1.3	.85	.99	1.7	.50	.50	.50
22	.50	1.5	3.3	1.7	.70	2.0	.60	.92	.93	.50	.50	.50
23	.50	8.6	1.7	1.3	.68	1.3	.50	.99	.66	.50	.57	.50
24	.50	1.6	1.3	1.3	.87	1.5	.46	3.0	.60	.50	.50	.41
25	.56	7.2	3.3	52	1.7	1.3	.41	1.2	.60	6.5	.50	.41
26	6.0	10	1.3	90	1.8	112	.41	.90	.60	.91	.50	.41
27	6.6	1.3	.85	4.5	1.3	26	.50	.85	1.4	.74	59	.41
28	1.1	1.0	.85	2.5	.95	2.9	.50	.85	1.9	1.1	27	.41
29	.75	4.8	.85	1.5	---	1.7	.50	2.3	.50	.72	1.7	.41
30	.72	7.5	1.1	1.0	---	1.1	.50	.99	.50	.72	.87	.41
31	1.1	---	1.2	.80	---	1.3	---	1.0	---	3.1	2.6	---
TOTAL	62.58	95.97	263.55	302.78	23.41	215.96	24.93	134.33	27.26	73.32	161.05	24.49
MEAN	2.02	3.20	8.50	9.77	.84	6.97	.83	4.33	.91	2.37	5.20	.82
MAX	13	14	141	90	1.8	112	4.7	30	3.1	42	59	6.3
MIN	.45	.60	.50	.72	.59	.81	.41	.41	.50	.50	.50	.41
CFSM	1.03	1.62	4.32	4.96	.43	3.54	.42	2.20	.46	1.20	2.64	.42
IN.	1.18	1.81	4.97	5.71	.44	4.08	.47	2.54	.51	1.38	3.04	.46

CAL YR 1977 TOTAL 865.64 MEAN 2.37 MAX 141 MIN .41 CFSM 1.20 IN 16.34
WTR YR 1978 TOTAL 1409.63 MEAN 3.86 MAX 141 MIN .41 CFSM 1.96 IN 26.60

01585500 CRANBERRY BRANCH NEAR WESTMINSTER, MD

LOCATION.--Lat 39°35'35", long 76°58'05", Carroll County, Hydrologic Unit 02060003, on left bank 80 ft (24 m) upstream from culvert, 0.7 mi (1.1 km) upstream from mouth, and 1.8 mi (2.9 km) northeast of Westminster.

DRAINAGEA AREA.--3.29 mi^2 (8.52 km^2).

PERIOD OF RECORD.--September 1949 to current year.

REVISED RECORDS.--WSP 1432: Drainage area, 1954-55. WDR MD-DE-75-1: 1972(M).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 670 ft (204 m), from topographic map.

REMARKS.--Records good. Occasional small diversions to and releases from Cranberry Reservoir located offstream 1 mi (1.6 km) above station since August 1957, capacity, 113,700,000 gal (430,400 m^3). Beginning October 1972 occasional large diversions past the gaging station from the reservoir through a 30-inch (0.76 m) pipe. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--29 years, 3.59 ft^3/s (0.102 m^3/s), 14.82 in/yr (376 mm/yr), unadjusted for storage and diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,220 ft^3/s (62.9 m^3/s) Sept. 26, 1975, gage height, 7.47 ft (2.277 m), from rating curve extended above 200 ft^3/s (5.66 m^3/s) on the basis of computations of flows through culvert at gage heights 5.54 ft (1.689 m) and 7.47 ft (2.277 m); minimum daily, 0.27 ft^3/s (0.008 m^3/s) Dec. 3, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 623 ft^3/s (17.6 m^3/s) Jan. 26, gage height, 4.98 ft (1.518 m); minimum daily, 0.28 ft^3/s (0.008 m^3/s) Oct. 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.31	1.6	11	3.9	6.6	3.3	5.1	2.6	2.6	1.5	3.2	4.5
2	.31	1.7	1.5	3.7	6.3	3.2	4.7	2.6	2.4	2.2	1.4	1.4
3	.30	2.2	.93	3.5	5.8	3.4	4.8	2.5	3.0	13	.97	1.3
4	.30	8.0	.72	3.2	5.1	3.2	5.1	3.4	2.5	3.7	.73	1.3
5	.30	2.6	3.8	3.4	4.5	3.1	5.1	3.8	1.8	1.7	.96	1.2
6	.33	2.9	2.1	3.4	4.5	3.1	4.6	3.1	1.6	1.2	.82	1.2
7	.29	9.5	1.0	3.5	4.7	3.0	4.7	2.7	1.6	1.1	.76	1.1
8	.33	3.4	2.1	6.3	4.7	3.0	4.0	3.9	1.7	1.0	.69	.97
9	1.3	.65	3.1	20	4.1	3.0	3.8	5.0	2.1	.96	.64	.78
10	.32	.61	2.6	4.7	4.1	3.2	3.8	2.2	1.5	.94	.64	.62
11	.30	.63	2.5	4.3	4.0	3.4	4.0	1.9	1.2	.92	.64	.52
12	.28	.50	2.5	3.7	4.1	7.3	3.8	1.9	.78	.90	.65	1.2
13	.28	.43	2.7	4.5	4.0	16	3.4	6.4	1.1	.92	.64	2.4
14	2.0	.47	6.1	6.7	4.0	39	3.2	17	.82	.94	.63	1.1
15	2.7	.52	5.4	4.5	3.8	21	3.2	15	1.0	.94	.58	.38
16	.43	.45	3.6	4.1	3.7	8.6	3.1	13	.96	.94	.56	.36
17	1.7	1.1	3.3	6.5	3.8	7.2	3.2	8.4	1.7	.94	.54	.36
18	.42	.91	35	11	3.8	6.4	3.2	6.7	1.2	.88	.54	.34
19	.42	.70	12	5.4	3.7	12	4.9	5.5	.90	.84	.51	.35
20	.43	.64	8.8	5.2	3.7	7.6	5.6	4.7	.74	.75	.44	.35
21	1.0	1.6	24	4.7	3.5	7.2	3.9	4.3	.86	.72	.44	.35
22	1.6	1.6	8.5	4.3	3.4	6.3	3.5	3.9	1.5	.70	.45	.35
23	1.4	6.5	6.6	4.1	3.4	5.6	3.3	3.9	.70	.67	.43	.33
24	1.4	.75	6.1	4.0	3.2	5.1	3.2	4.3	.70	.64	.43	.32
25	1.3	.96	6.6	31	3.5	5.1	3.2	3.8	.69	.72	.54	.31
26	2.5	2.0	4.7	120	3.5	34	3.1	3.2	.71	.82	.56	.30
27	5.7	.69	4.3	16	3.4	22	3.0	3.2	.79	.85	.53	.31
28	2.3	.63	4.1	12	3.3	9.2	2.7	3.1	.84	.85	1.6	.30
29	1.8	.65	3.7	10	---	6.9	2.7	3.1	1.2	.68	.41	.29
30	1.7	1.9	3.9	8.8	---	5.9	2.6	2.9	1.7	.68	.46	.29
31	1.6	---	3.9	7.8	---	5.5	---	2.8	---	.99	1.0	---
TOTAL	35.35	56.80	187.15	334.2	116.2	272.8	114.5	150.8	40.89	44.59	23.39	24.88
MEAN	1.14	1.89	6.04	10.8	4.15	8.80	3.82	4.86	1.36	1.44	.75	.83
MAX	5.7	9.5	35	120	6.6	39	5.6	17	3.0	13	3.2	4.5
MIN	.28	.43	.72	3.2	3.2	3.0	2.6	1.9	.69	.64	.41	.29

CAL YR 1977 TOTAL 985.77 MEAN 2.70 MAX 35 MIN .21
WTR YR 1978 TOTAL 1401.55 MEAN 3.84 MAX 120 MIN .28

01586000 NORTH BRANCH PATAPSCO RIVER AT CEDARHURST, MD

LOCATION.--Lat 39°30'00", long 76°53'00", Carroll County, Hydrologic Unit 02060003, on left bank at downstream side of private footbridge at Cedarhurst, 0.8 mi (1.3 km) downstream from Roaring Run, 8 mi (12.9 km) southeast of Westminster, and 16.5 mi (26.5 km) upstream from confluence with South Branch.

DRAINAGE AREA.--56.6 mi² (146.6 km²).

PERIOD OF RECORD.--September 1945 to current year.

REVISED RECORDS.--WSP 1903: 1959-60.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 425 ft (130 m), from topographic map.

REMARKS.--Records good. Slight diurnal fluctuation at low and medium flow caused by mill above station. Low flow affected slightly by Cranberry Reservoir since August 1957, capacity, 113,700,000 gal (430,400 m³). Records do not include a mean discharge of 1.99 ft³/s (0.056 m³/s) diverted above station for municipal supply of Westminster; sewage effluent discharged into Little Pipe Creek in Monocacy River basin. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--33 years, 64.3 ft³/s (1.821 m³/s), 15.43 in/yr (392 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,800 ft³/s (787 m³/s) June 22, 1972, gage height, 20.75 ft (6.325 m), from high-water mark in well, from rating curve extended above 4,100 ft³/s (116 m³/s) on basis of contracted-opening measurement of peak flow; minimum, 1.9 ft³/s (0.054 m³/s) Sept. 10, 1966, result of filling pond above station; minimum daily, 3.1 ft³/s (0.088 m³/s) Sept. 10, 12, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft³/s (28 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 18	1230	1690	47.9	6.07	1.850	Jan. 26	0930	*4540	129	9.24	2.816
Jan. 9	0530	1070	30.3	4.70	1.433	Mar. 14	1730	2180	61.7	6.32	1.926
Jan. 25	1700	1150	32.6	4.90	1.494	Mar. 26	1700	1930	54.7	5.95	1.814

Minimum discharge, 4.4 ft³/s (0.12 m³/s) Nov. 25, gage height, 1.21 ft (0.369 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	25	240	70	120	57	126	55	59	34	88	80
2	20	25	80	67	110	54	113	54	54	45	46	35
3	14	31	64	58	100	56	108	53	63	288	37	31
4	13	119	57	54	95	55	109	64	59	98	37	29
5	13	46	74	58	90	50	114	76	53	64	69	27
6	16	42	76	59	85	50	98	65	51	54	66	26
7	16	136	53	59	83	50	101	59	52	49	43	25
8	15	133	46	92	81	49	90	63	55	45	38	25
9	51	60	50	345	79	50	85	92	53	45	35	24
10	28	54	39	85	77	53	83	65	46	43	40	24
11	20	60	41	78	75	88	84	58	44	40	38	24
12	18	42	38	78	74	146	83	55	42	38	46	25
13	17	38	44	83	73	287	78	69	48	37	36	46
14	52	35	62	137	72	770	72	253	42	38	34	26
15	124	34	89	87	70	445	69	232	39	39	32	26
16	32	33	55	74	68	209	68	237	39	38	31	25
17	68	37	50	81	67	151	67	153	52	39	29	24
18	35	39	697	233	66	128	67	124	46	36	27	24
19	28	32	232	102	64	220	99	105	42	35	27	24
20	32	31	155	92	60	154	107	92	37	33	26	22
21	27	35	411	89	61	142	77	86	43	31	24	23
22	24	42	165	79	57	136	71	73	65	31	24	23
23	24	111	127	67	55	119	67	70	40	31	24	22
24	21	61	114	68	57	110	66	78	37	28	23	22
25	21	51	124	528	58	103	64	72	37	59	27	21
26	34	98	93	2110	62	820	63	69	36	37	31	20
27	105	53	78	280	60	511	61	65	39	48	31	20
28	44	48	72	200	55	241	59	66	55	81	79	20
29	32	49	69	170	---	184	57	65	39	35	31	19
30	29	60	72	150	---	152	57	61	44	33	28	19
31	25	---	72	130	---	135	---	60	---	38	37	---
TOTAL	1011	1660	3639	5863	2074	5775	2463	2789	1411	1590	1184	801
MEAN	32.6	55.3	117	189	74.1	186	82.1	90.0	47.0	51.3	38.2	26.7
MAX	124	136	697	2110	120	820	126	253	65	288	88	80
MIN	13	25	38	54	55	49	57	53	36	28	23	19
CFSM	.58	.98	2.07	3.34	1.31	3.29	1.45	1.59	.83	.91	.68	.47
IN.	.66	1.09	2.39	3.85	1.36	3.80	1.62	1.83	.93	1.04	.78	.53

CAL YR 1977 TOTAL 19078 MEAN 52.3 MAX 714 MIN 12 CFSM .92 IN 12.54
WTR YR 1978 TOTAL 30260 MEAN 82.9 MAX 2110 MIN 13 CFSM 1.47 IN 19.89

01587500 SOUTH BRANCH PATAPSCO RIVER AT HENRYTON, MD

LOCATION.--Lat 39°21'05", long 76°54'50", Howard County, Hydrologic Unit 02060003, on right bank at downstream side of bridge on Henryton Road at Henryton, 1.3 mi (2.1 km) upstream from Piney Run, 2.5 mi (4.0 km) upstream from confluence with North Branch, and 3.2 mi (5.1 km) southeast of Sykesville.

DRAINAGE AREA.--64.4 mi² (166.8 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1948 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 289.15 ft (88.133 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for period of doubtful or no gage-height record, Jan. 28 to Mar. 30, which are fair.

AVERAGE DISCHARGE.--30 years, 72.7 ft³/s (2.059 m³/s), 15.33 in/yr (389 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,900 ft³/s (762 m³/s) June 22, 1972, gage height, 28.14 ft (8.577 m), from floodmarks, from rating curve extended above 1,900 ft³/s (53.8 m³/s) on basis of slope-area measurements at gage height 7.88 ft (2.402 m) and 28.14 ft (8.577 m), and contracted-opening measurements at gage heights 10.12 ft (3.085 m) and 19.40 ft (5.913 m); minimum, 0.40 ft³/s (0.011 m³/s) Sept. 9-12, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 950 ft³/s (26 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 18	1230	2780	78.7	8.06	2.457
Jan. 9	0630	1050	29.7	4.37	1.332
Jan. 25	1700	1370	38.8	5.11	1.558
Jan. 26	0930	*4450	126	11.01	3.356
Mar. 14	1800	1460	41.3	5.31	1.618
Mar. 26	1830	1980	56.1	6.43	1.960
July 3	Unknown	1460	41.3	5.30	1.615

Minimum discharge, 13 ft³/s (0.37 m³/s) Oct. 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	26	253	70	130	62	144	72	85	55	151	120
2	16	26	90	70	120	60	128	70	79	70	66	50
3	17	28	72	64	110	60	128	70	82	500	58	44
4	14	70	62	60	105	60	130	90	85	150	54	42
5	14	40	64	50	100	56	135	114	79	105	236	38
6	15	41	77	60	95	54	125	87	79	79	72	36
7	16	214	56	62	90	54	115	79	75	70	64	34
8	15	171	52	93	88	54	107	82	82	66	60	34
9	36	70	51	423	86	54	101	159	79	66	51	32
10	31	60	46	121	84	60	98	136	68	62	72	30
11	19	66	43	101	82	80	101	90	68	60	55	31
12	18	48	41	95	80	100	104	82	66	54	60	32
13	16	43	46	93	78	200	95	95	72	53	50	49
14	28	40	60	199	76	500	87	344	66	54	46	34
15	75	38	85	111	75	350	85	337	62	58	44	34
16	34	37	55	95	74	230	85	337	62	66	42	33
17	61	40	51	104	72	180	85	253	79	64	40	31
18	36	45	1050	313	70	160	85	180	72	53	38	31
19	29	37	350	140	68	220	121	150	64	49	38	32
20	27	35	219	125	66	180	136	130	60	49	36	30
21	24	37	379	107	64	160	101	120	144	48	34	31
22	22	40	189	90	62	150	93	105	107	46	34	31
23	21	117	136	70	60	140	87	100	66	44	34	29
24	21	68	117	80	62	130	85	110	60	43	32	28
25	21	56	121	616	64	120	82	100	58	77	38	29
26	48	107	93	2220	66	900	82	98	58	53	40	27
27	159	62	75	337	64	550	79	95	64	53	42	27
28	49	54	75	220	60	260	77	98	95	62	90	28
29	35	58	75	180	---	210	75	93	60	46	44	26
30	30	82	72	160	---	170	72	90	65	44	38	26
31	27	---	72	140	---	155	---	87	---	75	50	---
TOTAL	988	1856	4227	6679	2251	5719	3028	4053	2241	2374	1809	1079
MEAN	31.9	61.9	136	215	80.4	184	101	131	74.7	76.6	58.4	36.0
MAX	159	214	1050	2220	130	900	144	344	144	500	236	120
MIN	14	26	41	60	60	54	72	70	58	43	32	26
CFSM	.50	.96	2.11	3.34	1.25	2.86	1.57	2.03	1.16	1.19	.91	.56
IN.	.57	1.07	2.44	3.86	1.30	3.30	1.75	2.34	1.29	1.37	1.04	.62

CAL YR 1977 TOTAL 20263 MEAN 55.5 MAX 1050 MIN 14 CFSM .86 IN 11.70
WTR YR 1978 TOTAL 36304 MEAN 99.5 MAX 2220 MIN 14 CFSM 1.55 IN 20.97

01587500 SOUTH BRANCH PATAPSCO RIVER AT HENRYTON, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965-74, 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT									
11...	0930	20	--	7.5	9.5	12.0	--	--	--
NOV									
18...	--	50	140	7.3	8.0	7.5	--	--	--
18...	0955	49	--	--	8.0	7.5	--	--	--
18...	1000	50	--	--	8.0	7.5	--	--	--
DEC									
09...	1130	53	140	7.7	3.0	2.0	2	41	13
16...	0945	57	--	--	.0	3.0	--	--	--
16...	0950	56	--	--	.0	3.0	--	--	--
JAN									
24...	1200	84	144	7.2	.0	.5	--	--	--
24...	1250	84	--	--	.0	.5	--	--	--
FEB									
23...	1000	58	--	--	-5.0	.0	--	--	--
23...	1010	57	--	--	-5.0	.0	--	--	--
MAY									
03...	0955	70	--	--	15.0	11.0	--	--	--
03...	1000	71	--	--	15.0	11.0	--	--	--
JUN									
19...	1045	66	140	7.5	26.5	21.0	--	--	--
SEP									
08...	1130	34	153	7.9	24.0	21.0	--	--	--
22...	1330	31	155	8.0	25.0	21.0	10	51	13

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT									
11...	--	--	--	--	--	--	--	--	--
NOV									
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
DEC									
09...	11	3.3	6.6	2.4	34	28	8.9	11	.1
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
JAN									
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
FEB									
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
MAY									
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
JUN									
19...	--	--	--	--	--	--	--	--	--
SEP									
08...	--	--	--	--	--	--	--	--	--
22...	14	3.8	7.3	2.4	46	38	5.8	12	.1

01587500 SOUTH BRANCH PATAPSCO RIVER AT HENRYTON, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)
OCT									
11...	--	--	--	--	--	--	--	--	--
NOV									
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
DEC									
09...	9.2	69	69	2.4	.13	300	120	60	60
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
JAN									
24...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
FEB									
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
MAY									
03...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
JUN									
19...	--	--	--	--	--	--	--	--	--
SEP									
08...	--	--	--	--	--	--	--	--	--
22...	8.3	93	76	2.0	.16	210	80	30	30

01589000 PATAPSCO RIVER AT HOLLOFIELD, MD

LOCATION.--Lat 39°18'36", long 76°47'34", Baltimore County, Hydrologic Unit 0206003, on left bank at downstream side of highway bridge at Hollofield, 0.3 mi (0.5 km) downstream from Dogwood Run, 3.0 mi (4.8 km) north of Ellicott City, and 28 mi (45 km) upstream from mouth.

DRAINAGE AREA.--285 mi^2 (738 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1944 to current year.

GAGE.--Water-stage recorder. Datum of gage is 187.7 ft (57.21 m) National Geodetic Vertical Datum of 1929. June 26 to Dec. 8, 1972, nonrecording gage at same site and datum. Prior to June 22, 1972, water-stage recorder at site on opposite bank at same datum.

REMARKS.--Water-discharge records good except those for winter periods, which are fair. Flow regulated by Liberty Reservoir 11 mi (18 km) upstream beginning July 22, 1954, usable capacity, 42,070,000,000 gal (159.2 hm^3); dead storage, 1,260,000,000 gal (4.769 hm^3). Diversions above station for municipal supply of Westminster (sewage effluent discharged into Little Pipe Creek), and from Liberty Reservoir beginning Feb. 26, 1953, for municipal supply of Baltimore, and beginning February 1970 for a small municipal supply for part of Carroll County.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 80,600 ft^3/s (2,280 m^3/s) June 22, 1972, gage height, 31.3 ft (9.54 m), from floodmarks, from rating curve extended above 27,000 ft^3/s (765 m^3/s) on basis of slope-area measurement of peak flow; minimum, 6 ft^3/s (0.17 m^3/s) Sept. 6, 1944; minimum daily, 9.6 ft^3/s (0.27 m^3/s) Aug. 12, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,770 ft^3/s (192 m^3/s) Jan. 26, gage height, 7.50 ft (2.286 m); minimum, 25 ft^3/s (0.71 m^3/s) Oct. 4, 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	108	421	121	260	141	458	135	170	121	340	264
2	30	124	168	118	245	135	409	132	144	150	138	106
3	31	134	124	105	230	143	348	141	141	1170	111	85
4	27	220	108	103	225	135	353	163	153	375	105	77
5	25	154	106	100	220	135	353	230	144	230	343	70
6	26	144	125	103	210	130	307	166	147	198	172	65
7	29	345	96	100	205	130	317	153	153	176	140	63
8	29	302	80	144	200	126	293	150	166	166	150	61
9	79	135	85	847	195	126	256	214	144	166	108	61
10	71	109	80	180	190	141	239	327	121	150	140	57
11	35	130	80	150	185	284	243	210	113	126	145	56
12	34	93	73	150	180	458	279	170	110	115	160	64
13	32	80	77	155	175	553	234	163	118	115	98	126
14	61	74	97	348	170	1010	234	822	108	121	103	69
15	178	72	153	185	165	764	202	1280	105	141	91	64
16	66	91	103	150	160	465	187	1430	100	138	91	61
17	115	97	91	180	155	353	156	1130	132	141	86	60
18	79	106	2220	573	150	312	150	789	135	110	82	59
19	59	94	764	220	145	369	230	607	113	103	70	58
20	52	89	359	165	145	343	322	478	105	93	66	58
21	49	90	643	150	140	279	247	398	415	93	64	57
22	46	97	343	145	140	270	230	322	284	100	66	58
23	44	219	239	140	135	234	187	270	129	91	64	56
24	43	151	206	150	130	218	184	265	115	78	64	53
25	42	126	202	1150	144	198	173	256	110	141	62	52
26	75	213	170	4380	166	1490	156	195	113	108	62	50
27	293	137	138	891	156	1520	153	166	118	96	64	48
28	107	98	130	480	147	1100	153	163	166	115	121	48
29	78	101	130	370	---	847	141	166	113	91	84	48
30	66	135	130	320	---	657	135	173	150	86	72	47
31	61	---	126	270	---	532	---	163	---	158	89	---
TOTAL	1988	4068	7867	12643	4968	13598	7329	11427	4335	5262	3551	2101
MEAN	64.1	136	254	408	177	439	244	369	145	170	115	70.0
MAX	293	345	2220	4380	260	1520	458	1430	415	1170	343	264
MIN	25	72	73	100	130	126	135	132	100	78	62	47
(≠)	27180	28600	32140	39180	38890	43410	43050	43230	42010	41170	39560	37080
(‡)	156	144	170	209	246	239	230	244	256	237	232	231

CAL YR 1977 TOTAL 40248 MEAN 110 MAX 2220 MIN 21 ‡ 205
WTR YR 1978 TOTAL 79137 MEAN 217 MAX 4380 MIN 25 ‡ 216

≠ Month-end contents, in millions of gallons in Liberty Reservoir, contents on Sept. 30, 1977: 28,310,000,000 gal (107.2 hm^3); records furnished by Baltimore Department of Public Works.

‡ Diversions, in cubic feet per second, above station for municipal supply of city of Westminster; and from Liberty Reservoir for municipal supply of city of Baltimore, and for part of Carroll County. Records furnished by cities of Westminster and Baltimore, respectively.

01589000 PATAPSCO RIVER AT HOLLOFIELD, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-74, 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT									
11...	1200	36	--	--	17.0	15.0	--	--	--
11...	1215	35	--	7.8	17.0	15.0	--	--	--
27...	1130	331	--	--	18.0	14.0	--	--	--
NOV									
18...	--	112	155	7.8	10.5	10.0	--	--	--
18...	1255	112	--	--	10.5	10.0	--	--	--
18...	1300	112	--	--	10.5	10.0	--	--	--
DEC									
09...	1245	87	175	7.5	4.0	2.0	3	52	9
16...	1200	96	--	--	6.0	4.0	--	--	--
16...	1205	95	--	--	6.0	4.0	--	--	--
JAN									
24...	1430	203	180	5.8	6.0	.5	--	--	--
FEB									
23...	1245	144	--	--	-2.0	.0	--	--	--
23...	1250	144	--	--	-2.0	.0	--	--	--
MAR									
09...	1425	124	--	--	2.5	3.0	--	--	--
09...	1430	124	--	--	2.5	3.0	--	--	--
MAY									
03...	1245	133	--	--	15.0	16.0	--	--	--
JUN									
19...	1330	115	--	--	31.0	25.0	--	--	--
19...	1350	115	--	--	31.0	25.0	--	--	--
SEP									
08...	1400	61	140	8.6	24.5	24.0	--	--	--
08...	1405	61	--	--	24.5	24.0	--	--	--
22...	1415	63	175	8.4	24.0	22.5	10	61	15

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT									
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--
NOV									
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
DEC									
09...	14	4.2	7.3	2.7	53	43	12	11	.1
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
JAN									
24...	--	--	--	--	--	--	--	--	--
FEB									
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
MAR									
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
MAY									
03...	--	--	--	--	--	--	--	--	--
JUN									
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
SEP									
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
22...	17	4.6	7.3	2.7	56	46	9.7	11	.0

01589000 PATAPSCO RIVER AT HOLLOFIELD. MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT									
11...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--
NOV									
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
DEC									
09...	12	87	90	1.9	.10	360	80	60	60
16...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
JAN									
24...	--	--	--	--	--	--	--	--	--
FEB									
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
MAR									
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
MAY									
03...	--	--	--	--	--	--	--	--	--
JUN									
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
SEP									
08...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
22...	5.8	102	86	1.5	.09	520	0	100	60

01589100 EAST BRANCH HERBERT RUN AT ARBUTUS, MD

LOCATION.--Lat 39°14'24", long 76°41'33", Baltimore County, Hydrologic Unit 02060003, on right bank at downstream side of bridge on Tom Day Boulevard at U.S. Route 1 in Arbutus, 0.5 mi (0.8 km) upstream from mouth, and 2 mi (3 km) south of Baltimore city limits.

DRAINAGE AREA.--2.47 mi^2 (6.40 km^2).

PERIOD OF RECORD.--August 1957 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 45 ft (14 m), from topographic map.

REMARKS.--Records good except for periods of doubtful or no gage-height record May 14 to September 30, which are fair. Slight regulation at low flow from unknown source above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--21 years, 3.23 ft^3/s (0.091 m^3/s), 17.76 in/yr (451 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,340 ft^3/s (37.9 m^3/s) June 22, 1972, gage height, 6.35 ft (1.935 m), from rating curve extended above 280 ft^3/s (7.93 m^3/s) on basis of slope-area measurement of flood of July 20, 1956, (prior to establishment of station) at gage height 5.7 ft (1.74 m), from floodmarks, discharge, 1,090 ft^3/s (30.9 m^3/s); minimum daily, 0.30 ft^3/s (0.008 m^3/s) July 24, Sept. 4, 11, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft^3/s (11 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 18	0815	487	13.8	3.43	1.045
Jan. 26	0345	462	13.1	3.36	1.024
Aug. 11	2230	*659	18.7	3.89	1.186

Minimum discharge, 0.37 ft^3/s (0.010 m^3/s) Oct. 4, 5, 6, 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MFAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.56	.89	7.4	1.7	2.5	1.5	1.9	.90	1.4	.80	6.6	1.3
2	2.2	.72	2.0	1.6	2.5	1.4	1.6	.94	1.3	3.8	1.4	.84
3	.56	3.6	1.5	1.3	2.2	1.6	1.8	.96	2.5	34	1.3	.80
4	.43	1.2	1.4	1.2	2.0	2.2	2.3	11	1.4	2.2	1.2	.78
5	.43	.72	3.6	1.4	1.8	1.5	1.6	1.6	2.2	1.4	14	.76
6	.78	14	1.9	1.5	1.7	1.4	1.4	1.2	1.3	1.2	2.0	.74
7	.44	12	1.2	1.3	2.0	1.5	1.6	1.1	8.0	1.1	6.6	.74
8	.46	3.7	1.1	9.2	2.2	1.7	1.2	14	3.0	.98	2.2	.73
9	12	1.5	1.3	21	2.2	2.0	1.1	5.2	1.4	.80	14	.72
10	.54	5.0	.97	2.2	1.8	4.6	1.1	1.9	1.2	.90	4.5	.72
11	.47	1.9	.96	1.9	1.7	4.5	1.2	1.7	1.1	.80	26	.72
12	.49	1.1	1.0	1.7	1.8	3.5	1.1	2.2	1.1	.80	6.3	5.0
13	.48	.97	1.1	7.3	1.7	3.1	1.1	8.9	2.0	.80	3.6	2.0
14	11	.99	7.0	9.0	2.3	6.9	1.1	20	.90	.80	2.0	1.3
15	4.0	.97	2.2	2.7	2.2	3.0	.82	13	.80	.71	1.4	.90
16	3.9	.93	1.2	2.0	1.7	6.2	.82	15	.80	4.0	1.3	.82
17	4.2	1.9	1.1	15	2.0	3.6	.82	4.0	3.2	.80	1.3	.80
18	.79	.90	113	11	1.8	2.5	1.7	3.0	.95	.71	1.1	.77
19	.92	.77	21	3.1	1.8	2.3	8.8	2.5	.98	.71	1.1	.74
20	.73	.71	7.3	3.2	1.5	2.2	4.0	2.2	.94	.80	1.1	.74
21	.75	1.2	13	2.6	1.7	2.5	1.7	2.0	2.4	.76	1.1	.73
22	.67	3.0	3.4	2.3	1.4	2.3	1.2	1.8	1.3	.73	1.0	.73
23	.69	6.2	2.7	2.1	1.4	1.9	1.0	3.0	1.1	.73	1.0	.73
24	.61	1.1	2.4	2.3	1.6	1.6	.85	3.2	.90	.71	1.0	.73
25	.65	5.2	3.3	40	2.5	2.4	.90	2.0	.98	13	1.0	.72
26	16	4.4	2.1	68	1.9	48	1.1	1.7	1.2	1.1	1.0	.72
27	3.7	1.1	1.8	5.6	1.6	17	1.2	1.6	2.5	1.4	1.8	.72
28	.97	1.1	1.7	4.0	1.5	3.8	1.1	1.6	1.6	2.5	1.8	.72
29	.72	5.2	1.5	3.2	---	2.8	.91	6.0	1.2	.71	.84	.70
30	.62	6.6	2.1	3.0	---	2.4	.85	2.0	1.0	.71	.84	.70
31	.67	---	1.7	2.7	---	2.0	---	1.6	---	28	2.5	---
TOTAL	71.43	89.57	213.93	235.1	53.0	143.9	47.87	137.80	50.65	108.46	112.88	29.12
MEAN	2.30	2.99	6.90	7.58	1.89	4.64	1.60	4.45	1.69	3.50	3.64	.97
MAX	16	14	113	68	2.5	48	8.8	20	8.0	34	26	5.0
MIN	.43	.71	.96	1.2	1.4	1.4	.82	.90	.80	.71	.84	.70
CFSM	.93	1.21	2.79	3.07	.77	1.88	.65	1.80	.68	1.42	1.47	.39
IN.	1.08	1.35	3.22	3.54	.80	2.17	.72	2.07	.76	1.63	1.70	.44

CAL YR 1977 TOTAL 817.37 MEAN 2.24 MAX 113 MIN .35 CFSM .91 IN 12.31
WTR YR 1978 TOTAL 1293.71 MEAN 3.54 MAX 113 MIN .43 CFSM 1.43 IN 19.48

01589300 GWYNNS FALLS AT VILLA NOVA, MD

LOCATION.--Lat 39°20'45", long 76°44'01", Baltimore County, Hydrologic Unit 02060003, on right bank 300 ft (91 m) downstream from bridge on Essex Road, 300 ft (91 m) north of State Highway 26 (Liberty Road), in Villa Nova, 1.1 mi (1.8 km) west of Baltimore city limits, and 11.5 mi (18.5 km) upstream from mouth.

DRAINAGE AREA.--32.5 mi^2 (84.2 km^2).

PERIOD OF RECORD.--February 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is 361.32 ft (110.130 m) Baltimore County datum. Prior to Aug. 27, 1963, and Oct. 25, 1972, to Sept. 20, 1973, water-stage recorder, and June 26, 1972, to Oct. 24, 1972, non-recording gage at site 300 ft (91 m) upstream at same datum.

REMARKS.--Records good. Slight diurnal fluctuation at times from unknown source above station. Small diversion for irrigation above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--21 years, 37.2 ft^3/s (1.054 m^3/s), 15.54 in/yr (395 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,200 ft^3/s (459 m^3/s) June 22, 1972, gage height, 21.5 ft (6.55 m), from floodmarks, from rating curve extended above 2,200 ft^3/s (62.3 m^3/s) on basis of contracted-opening measurement of peak flow; minimum, 1.7 ft^3/s (0.048 m^3/s) Sept. 7, 8, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 21, 1956, reached a stage of 12.6 ft (3.84 m), discharge, 5,270 ft^3/s (149 m^3/s) on basis of contracted-opening measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 750 ft^3/s (21 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 18	1045	2370	67.1	7.85	2.393	Mar. 26	1715	1480	41.9	6.06	1.847
Jan. 9	0515	994	28.2	4.85	1.478	June 21	2130	1270	36.0	5.56	1.695
Jan. 25	1630	755	21.4	4.17	1.271	July 3	1315	1290	36.5	5.62	1.713
Jan. 26	0530	*2380	67.4	7.86	2.396	Aug. 11	2330	1710	48.4	6.54	1.993

Minimum discharge, 6.8 ft^3/s (0.19 m^3/s) Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	13	181	26	42	29	52	29	31	21	107	72
2	9.7	13	40	26	40	28	46	29	30	40	27	22
3	8.9	31	30	24	38	31	46	28	34	603	22	18
4	7.6	76	25	23	37	29	52	82	33	98	20	17
5	7.9	24	37	23	36	29	47	74	32	45	59	17
6	9.3	53	34	23	36	28	42	40	30	32	45	16
7	9.7	159	22	24	36	27	47	35	54	29	75	15
8	7.9	108	20	89	35	28	41	40	55	26	45	15
9	79	34	20	388	34	29	38	188	36	26	23	15
10	16	44	19	55	34	39	38	88	29	24	37	14
11	10	61	18	44	34	86	39	42	27	22	125	14
12	9.9	26	18	36	34	115	45	36	26	20	203	33
13	8.8	22	20	46	34	137	37	61	34	20	37	90
14	76	19	61	128	33	286	35	285	27	20	30	18
15	116	18	58	49	32	176	34	209	25	23	26	17
16	20	17	29	36	32	101	34	215	25	31	23	16
17	60	24	24	77	30	98	33	103	35	23	22	15
18	18	25	1090	179	30	74	34	71	28	20	20	15
19	13	19	325	54	29	116	78	55	25	18	19	16
20	15	16	117	46	30	82	71	48	23	17	18	14
21	12	18	251	40	29	68	41	43	257	17	17	14
22	11	24	70	36	28	66	36	39	102	16	17	14
23	11	111	48	34	28	51	33	38	32	16	17	14
24	11	34	42	32	28	46	33	43	25	15	16	13
25	10	41	48	384	33	46	32	38	23	116	16	13
26	62	96	36	1290	36	682	32	35	23	25	17	13
27	79	30	32	115	33	375	31	34	39	20	17	13
28	27	25	30	64	30	98	31	35	66	39	36	12
29	17	43	29	53	---	69	29	37	25	20	18	11
30	14	59	28	48	---	59	29	35	29	17	16	11
31	13	---	28	44	---	55	---	32	---	98	28	---
TOTAL	777.9	1283	2830	3536	931	3183	1216	2167	1260	1557	1198	597
MEAN	25.1	42.8	91.3	114	33.3	103	40.5	69.9	42.0	50.2	38.6	19.9
MAX	116	159	1090	1290	42	682	78	285	257	603	203	90
MIN	7.6	13	18	23	28	27	29	28	23	15	16	11
CFSM	.77	1.32	2.81	3.51	1.03	3.17	1.25	2.15	1.29	1.55	1.19	.61
IN.	.89	1.47	3.24	4.05	1.07	3.64	1.39	2.48	1.44	1.78	1.37	.68

CAL YR 1977 TOTAL 12462.1 MEAN 34.1 MAX 1090 MIN 7.5 CFSM 1.05 IN 14.26
WTR YR 1978 TOTAL 20535.9 MEAN 56.3 MAX 1290 MIN 7.6 CFSM 1.73 IN 23.50

01589330 DEAD RUN AT FRANKLINTOWN, MD

LOCATION.--Lat 39°18'40", long 76°43'02", Baltimore County, Hydrologic Unit 02060003, on right bank at downstream side of bridge on Colonial Road at Security Boulevard at Franklintown, 0.3 mi (0.5 km) west of Baltimore city limits, 1.2 mi (1.9 km) southwest of Woodlawn, and 2.5 mi (4.0 km) upstream from mouth.

DRAINAGE AREA.--5.52 mi^2 (14.30 km^2).

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 310 ft (94 m), from topographic map.

REMARKS.--Records good. Occasional regulation at low flow from unknown source above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--19 years, 7.41 ft^3/s (0.210 m^3/s), 18.23 in/yr (463 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,400 ft^3/s (210 m^3/s) June 22, 1972, gage height, 12.5 ft (3.81 m), from floodmarks, from rating curve extended above 1,600 ft^3/s (45.3 m^3/s) on basis of contracted-opening measurement of peak flow at bridge 0.6 mi (1.0 km) downstream, adjusted for flow from intervening area; minimum, 0.10 ft^3/s (0.003 m^3/s) Sept. 11-12, 1966, gage height, 0.57 ft (0.174 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 650 ft^3/s (18 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 18	1030	1490	42.2	6.46	1.969	Mar. 26	1500	850	24.1	4.62	1.408
Jan. 9	0400	835	23.6	4.57	1.393	June 21	1900	658	18.6	3.94	1.201
Jan. 26	0545	1490	42.2	6.47	1.972	Aug. 11	2330	*1620	45.9	6.78	2.067

Minimum discharge, 0.50 ft^3/s (0.014 m^3/s) Oct. 1, 3, 4, 5, 6, 8, gage height 0.68 ft (0.207 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.4	37	2.5	3.4	2.9	2.9	1.8	2.4	1.3	11	2.9
2	5.6	1.6	5.1	2.7	3.3	2.3	2.2	2.0	2.0	11	1.6	1.2
3	.57	15	3.4	2.3	3.1	2.5	2.9	1.9	5.5	108	1.4	1.2
4	.50	8.2	2.9	2.3	2.9	3.6	3.6	32	2.1	4.4	1.2	1.0
5	.51	1.6	13	2.3	2.9	2.6	2.2	13	4.8	2.5	9.4	1.0
6	3.4	49	5.8	2.2	2.2	2.5	2.2	3.6	2.1	1.9	8.7	1.0
7	.64	50	2.8	2.3	2.9	2.5	3.2	2.3	22	1.7	8.3	1.0
8	.66	15	2.5	32	3.2	2.8	2.2	15	7.5	1.5	2.4	.97
9	36	3.6	3.3	123	2.5	4.2	1.9	29	2.6	1.3	9.6	1.0
10	1.0	13	2.3	4.5	2.3	11	1.9	4.9	2.0	1.4	9.0	.98
11	.77	4.7	2.0	4.0	2.3	30	2.9	3.0	1.8	1.3	101	.94
12	.75	2.4	2.0	3.4	2.6	22	2.5	2.7	1.8	1.5	31	13
13	.71	1.9	2.2	18	2.2	20	1.9	24	4.9	1.2	2.5	4.3
14	50	2.0	27	42	3.0	49	1.9	63	1.5	1.4	2.2	1.0
15	16	1.7	8.6	6.5	3.1	16	1.6	48	1.4	4.1	1.9	1.3
16	11	1.7	3.3	4.0	2.1	21	1.6	60	1.5	2.1	1.9	.98
17	16	4.3	2.9	34	2.8	19	1.6	17	10	1.4	1.6	.98
18	1.5	1.7	386	48	2.6	7.6	2.9	8.0	1.7	1.2	1.4	.98
19	1.3	1.4	89	6.5	2.8	6.5	22	5.0	1.6	1.2	1.4	.98
20	1.4	1.4	30	8.0	2.4	4.5	10	3.9	1.5	1.2	1.4	.98
21	1.0	2.4	67	6.1	2.6	6.1	2.2	3.4	35	1.3	1.4	.98
22	.91	8.6	9.3	5.0	2.0	5.9	1.9	2.9	3.6	1.1	1.4	.98
23	.91	25	5.5	2.9	2.1	3.4	1.6	5.2	1.8	1.1	1.4	1.3
24	.99	3.6	4.2	2.5	2.3	3.3	1.6	6.5	1.5	.97	1.4	1.0
25	1.0	16	8.1	125	7.3	5.3	1.6	3.1	1.5	11	1.4	.98
26	54	19	3.3	334	4.9	223	1.6	2.8	1.6	1.2	1.4	.98
27	14	2.9	3.1	15	3.5	82	1.7	2.8	4.7	1.1	3.6	.95
28	2.5	2.7	2.9	9.2	2.6	8.1	1.6	2.6	2.9	1.2	3.6	.95
29	1.5	18	2.7	6.5	---	4.5	1.5	15	1.8	.99	1.2	.90
30	1.2	18	4.0	4.5	---	3.2	1.4	3.3	1.7	.95	1.2	.90
31	1.2	---	3.0	3.7	---	2.9	---	2.8	---	28	5.8	---
TOTAL	228.52	297.8	744.2	864.9	81.9	580.2	90.8	390.5	136.8	200.51	232.7	47.61
MEAN	7.37	9.93	24.0	27.9	2.93	18.7	3.03	12.6	4.56	6.47	7.51	1.59
MAX	54	50	386	334	7.3	223	22	63	35	108	101	13
MIN	.50	1.4	2.0	2.2	2.0	2.3	1.4	1.8	1.4	.95	1.2	.90
CFSM	1.34	1.80	4.35	5.05	.53	3.39	.55	2.28	.83	1.17	1.36	.29
IN.	1.54	2.01	5.01	5.83	.55	3.91	.61	2.63	.92	1.35	1.57	.32

CAL YR 1977 TOTAL 2612.93 MEAN 7.16 MAX 386 MIN .50 CFSM 1.30 IN 17.61
WTR YR 1978 TOTAL 3896.44 MEAN 10.7 MAX 386 MIN .50 CFSM 1.94 IN 26.25

01589440 JONES FALLS AT SORRENTO, MD

LOCATION.--Lat 39°23'30", long 76°39'42", Baltimore County, Hydrologic Unit 02060003, on right bank 0.3 mi (0.5 km) downstream from bridge on State Highway 25 (Falls Road), 0.4 mi (0.6 km) downstream from Slaughterhouse Branch and Sorrento, and 18 mi (29 km) upstream from mouth.

DRAINAGE AREA.--25.2 mi² (65.3 km²).

PERIOD OF RECORD.--Annual maximum, water years 1958-66. April 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 240 ft (73 m), from topographic map. January 1958 to April 1966, nonrecording gage at site 450 ft (140 m) upstream at same datum.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--12 years, 33.6 ft³/s (0.952 m³/s), 18.11 in/yr (460 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,800 ft³/s (391 m³/s) June 22, 1972, gage height, 18.11 ft (5.520 m), from floodmarks, from rating curve extended above 1,400 ft³/s (39.6 m³/s) on basis of slope-area measurement of peak flow; minimum, 1.8 ft³/s (0.051 m³/s) Sept. 7, 8, 1966, gage height, 1.16 ft (0.354 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 600 ft³/s (17 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	(m³/s)	Gage height (ft)	(m)	Date	Time	Discharge (ft³/s)	(m³/s)	Gage height (ft)	(m)
Dec. 18	1115	1130	32.0	8.15	2.484	July 3	1430	685	19.4	6.51	1.984
Jan. 26	0845	1250	35.4	8.48	2.585	Aug. 11	2345	834	23.6	7.13	2.173
Mar. 26	1815	795	22.5	6.98	2.128	Sept. 12	2230	600	17.0	6.12	1.865
June 21	1915	888	25.1	7.33	2.234						

Minimum discharge, 5.5 ft³/s (0.16 m³/s) Oct. 4, gage height, 2.10 ft (0.640 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	11	65	28	42	28	49	30	30	24	55	34
2	6.9	11	28	27	40	26	45	30	29	31	29	21
3	6.3	19	24	25	38	28	45	31	31	289	27	19
4	6.0	25	22	24	37	27	47	49	30	57	25	19
5	5.9	16	26	24	36	27	44	49	29	38	34	18
6	6.5	21	26	25	35	26	42	37	27	31	40	16
7	6.7	52	21	25	34	25	43	34	30	29	69	16
8	6.8	40	19	46	34	25	40	36	40	27	39	16
9	30	21	20	195	33	26	39	80	32	26	28	17
10	11	23	18	48	33	29	39	56	28	25	31	16
11	9.0	28	17	38	32	47	39	38	27	23	70	16
12	8.2	18	16	30	32	62	40	34	26	22	214	62
13	7.5	16	18	36	32	73	37	44	28	22	33	59
14	26	15	29	62	32	151	35	109	26	22	28	21
15	50	14	29	38	31	112	35	103	25	23	27	19
16	17	14	20	33	30	75	35	103	25	25	26	18
17	24	15	19	57	31	70	35	66	27	24	24	17
18	14	15	494	96	31	62	35	55	26	21	22	17
19	12	13	191	44	30	80	53	46	25	21	21	16
20	12	13	76	42	30	63	52	42	23	20	21	16
21	11	13	125	36	29	58	39	39	131	19	20	16
22	10	15	54	33	28	57	36	36	52	19	19	16
23	9.6	40	44	32	28	48	35	35	32	19	19	16
24	8.8	21	40	30	27	46	35	39	29	18	18	15
25	8.5	22	42	198	29	45	34	36	27	99	18	15
26	24	41	34	707	30	372	33	33	27	26	19	14
27	40	21	30	98	29	232	34	33	30	23	20	14
28	18	19	28	62	28	82	33	33	37	26	24	14
29	14	22	28	53	---	64	32	38	27	21	19	13
30	13	26	27	49	---	55	32	33	28	20	18	13
31	11	---	28	46	---	51	---	31	---	45	23	---
TOTAL	440.2	640	1658	2287	901	2172	1172	1458	984	1135	1080	599
MEAN	14.2	21.3	53.5	73.8	32.2	70.1	39.1	47.0	32.8	36.6	34.8	20.0
MAX	50	52	494	707	42	372	53	109	131	289	214	62
MIN	5.9	11	16	24	27	25	32	30	23	18	18	13
CFSM	.56	.85	2.12	2.93	1.28	2.78	1.55	1.87	1.30	1.45	1.38	.79
IN.	.65	.94	2.45	3.38	1.33	3.21	1.73	2.15	1.45	1.68	1.59	.88

CAL YR 1977 TOTAL 8370.0 MEAN 22.9 MAX 494 MIN 5.6 CFSM .91 IN 12.36
WTR YR 1978 TOTAL 14526.2 MEAN 39.8 MAX 707 MIN 5.9 CFSM 1.58 IN 21.44

01590500 BACON RIDGE BRANCH AT CHESTERFIELD, MD

LOCATION.--Lat 39°00'07", long 76°36'53", Anne Arundel County, Hydrologic Unit 02060004, on left bank 50 ft (15 m) downstream from highway bridge, 0.5 mi (0.8 km) east of Chesterfield, 1.4 mi (2.3 km) upstream from confluence with North River, and 6.8 mi (10.9 km) northwest of Annapolis.

DRAINAGE AREA.--6.92 mi^2 (17.92 km^2).

PERIOD OF RECORD.--October 1942 to September 1952. Annual maximum, water years 1965-74. October 1974 to current year. Monthly discharge only October and November 1942, published in WSP 1302.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 15 ft (4.6 m), from topographic map.

REMARKS.--Records good except those of no gage-height record Jan. 28 to Mar. 2 which are fair. Records include sewage from Crownsville State Hospital, which obtains its water supply from wells. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--14 years (water years 1943-52, 1975-78), 9.80 ft^3/s (0.278 m^3/s), 19.23 in/yr (488 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,100 ft^3/s (59.5 m^3/s) Aug. 2, 1944, gage height, 5.49 ft (1.673 m), from rating curve extended above 140 ft^3/s (3.96 m^3/s) on basis of velocity-area studies; minimum, 2.3 ft^3/s (0.065 m^3/s) Aug. 30, 1975, gage height, 1.72 ft (0.524 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 285 ft^3/s (8.07 m^3/s) Jan. 26, gage height, 3.98 ft (1.213 m), no other peak above base of 185 ft^3/s (5.2 m^3/s); minimum, 2.2 ft^3/s (0.062 m^3/s) part or all of each day Oct. 1-8, Sept. 30, gage height, 1.74 ft (0.530 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	4.6	21	7.8	9.0	6.0	12	7.6	8.4	3.3	26	5.3
2	2.7	5.5	10	7.2	8.0	6.0	11	7.3	7.0	6.9	11	4.4
3	2.2	7.0	7.0	5.6	7.5	7.0	10	7.1	10	34	11	3.9
4	2.2	11	6.1	4.6	7.5	7.7	11	14	21	31	8.1	3.7
5	2.2	6.5	6.9	5.3	7.5	6.5	10	29	8.9	9.8	20	3.3
6	2.3	15	9.0	6.2	7.0	6.0	9.4	12	6.8	6.5	8.7	2.9
7	2.3	25	6.0	6.7	7.0	5.5	10	8.9	6.5	5.2	6.5	3.0
8	2.5	20	4.7	11	7.0	5.5	9.3	11	9.5	4.8	5.8	3.0
9	7.7	12	5.8	38	7.0	6.0	8.8	31	7.8	4.7	6.1	3.1
10	6.1	9.0	4.7	18	7.0	9.8	8.8	19	5.5	4.5	5.6	2.9
11	3.2	11	4.0	9.0	6.5	16	9.0	11	4.7	5.0	4.8	3.2
12	2.8	7.5	3.9	6.5	6.0	20	9.9	9.0	4.4	4.0	13	3.0
13	2.6	6.5	5.0	8.7	6.0	18	8.8	11	6.3	4.1	7.3	7.4
14	6.7	4.6	7.4	29	6.0	21	8.3	21	5.5	4.3	6.8	3.7
15	17	4.5	15	21	6.0	29	8.1	39	4.2	4.4	5.7	4.3
16	5.0	4.4	7.1	10	6.0	19	7.8	39	4.1	4.9	5.2	4.3
17	6.7	8.0	5.7	13	6.0	16	8.2	32	5.1	5.3	4.7	5.7
18	4.5	6.4	66	48	6.5	12	8.3	20	6.4	4.6	4.0	3.6
19	3.7	4.6	72	20	6.5	11	15	15	4.7	3.8	3.7	3.3
20	3.2	4.3	29	17	6.0	10	18	12	4.3	3.6	3.7	3.0
21	3.0	4.2	24	20	5.5	9.8	11	11	4.6	3.7	3.5	3.1
22	2.9	5.2	17	13	6.5	11	9.2	9.1	8.9	3.4	3.2	3.3
23	2.8	13	11	10	6.5	9.1	8.8	8.6	4.9	3.4	3.2	3.7
24	2.8	8.7	9.6	8.0	6.0	8.7	8.8	24	3.9	3.0	3.3	3.2
25	2.8	8.0	10	35	5.5	8.1	8.4	32	3.4	8.5	3.3	3.1
26	24	18	7.7	197	8.0	54	8.9	13	3.4	5.5	3.5	2.8
27	16	8.3	5.6	59	7.0	74	9.0	9.9	4.2	6.1	3.8	2.9
28	7.0	6.2	5.1	26	6.5	32	8.4	9.9	8.1	4.7	6.4	2.9
29	5.0	6.6	5.2	18	---	19	7.7	12	4.2	4.0	4.4	2.8
30	4.8	9.0	5.7	13	---	15	7.7	13	3.4	3.7	3.8	2.4
31	4.8	---	10	10	---	13	---	9.0	---	9.0	7.5	---
TOTAL	163.9	264.6	407.2	701.6	187.5	491.7	289.6	507.4	190.1	209.7	213.6	107.2
MEAN	5.29	8.82	13.1	22.6	6.70	15.9	9.65	16.4	6.34	6.76	6.89	3.57
MAX	24	25	72	197	9.0	74	18	39	21	34	26	7.4
MIN	2.2	4.2	3.9	4.6	5.5	5.5	7.7	7.1	3.4	3.0	3.2	2.4
CFSM	.76	1.28	1.89	3.27	.97	2.30	1.40	2.37	.92	.98	1.00	.52
IN.	.88	1.42	2.19	3.77	1.01	2.64	1.56	2.73	1.02	1.13	1.15	.58

CAL YR 1977 TOTAL 2334.1 MEAN 6.39 MAX 72 MIN 1.7 CFSM .92 IN 12.55
WTR YR 1978 TOTAL 3734.1 MEAN 10.2 MAX 197 MIN 2.2 CFSM 1.47 IN 20.07

01591000 PATUXENT RIVER NEAR UNITY, MD

LOCATION.--Lat 39°14'18", long 77°03'23", Montgomery County, Hydrologic Unit 02060006, on right bank at downstream side of bridge on State Highway 97, 0.6 mi (1 km) upstream from Cattail Creek, 0.8 mi (1.3 km) upstream from Triadelphia Reservoir, 1.1 mi (1.8 km) northeast of Unity, and 97 mi (155 km) upstream from mouth.

DRAINAGE AREA.--34.8 mi^2 (90.1 km^2).

PERIOD OF RECORD.--July 1944 to current year.

REVISED RECORDS.--WSP 1111: 1947. WSP 1432: 1948.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 364.76 ft (111.179 m) Washington Suburban Sanitary Commission datum. Prior to Aug. 14, 1946, non-recording gage at same site and datum.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--34 years, 38.9 ft^3/s (1.102 m^3/s), 15.18 in/yr (386 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,800 ft^3/s (595 m^3/s) Sept. 11, 1971, gage height, 18.60 ft (5.669 m), from rating curve extended above 1,500 ft^3/s (42.5 m^3/s) on basis of slope-area measurement at gage height 13.00 ft (3.962 m); minimum, 0.20 ft^3/s (0.006 m^3/s) Sept. 10, 11, 12, 1966, gage height, 1.66 ft (0.506 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 770 ft^3/s (21 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 18	1430	1580	44.7	7.12	2.170
Jan. 26	1000	*2790	79.0	8.75	2.667
Mar. 26	1730	913	25.9	5.79	1.765
May 15	1530	1160	32.9	6.34	1.932
May 16	1800	1060	30.0	6.13	1.868
June 21	2200	1030	29.2	6.06	1.847
July 3	1530	909	25.7	5.78	1.762

Minimum discharge, 4.6 ft^3/s (0.13 m^3/s) Oct. 4, 5, 6, gage height, 1.82 ft (0.555 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.9	13	137	41	68	36	74	33	47	30	108	67
2	8.1	13	55	40	62	35	67	32	43	60	36	25
3	5.9	14	42	36	58	37	64	31	46	370	29	21
4	4.9	47	36	36	56	41	64	46	45	105	29	20
5	4.6	23	37	35	52	34	61	57	40	62	67	18
6	5.2	22	40	35	51	34	57	43	39	49	34	17
7	6.1	90	30	36	54	32	60	38	40	42	31	17
8	5.8	88	27	62	54	32	53	39	45	38	30	16
9	19	40	28	241	52	32	50	59	42	36	26	16
10	12	34	27	74	48	39	49	53	35	34	36	15
11	8.0	36	24	64	46	107	50	41	34	32	26	15
12	7.3	25	22	56	45	129	51	37	32	29	27	17
13	6.9	22	24	54	44	156	47	59	38	28	31	36
14	10	20	33	96	44	235	43	199	32	28	30	19
15	36	20	47	60	41	170	42	512	30	31	26	18
16	14	18	32	50	40	114	41	566	29	40	24	18
17	33	20	28	65	40	98	40	248	38	34	22	18
18	15	20	657	176	41	88	40	159	34	29	21	17
19	12	17	189	77	40	106	60	122	29	27	20	17
20	11	17	124	72	38	85	64	101	27	26	19	16
21	10	18	211	60	38	77	48	89	201	24	18	16
22	9.5	19	112	52	35	72	44	77	90	23	17	16
23	9.2	57	84	48	36	64	41	73	39	22	17	15
24	9.0	35	73	46	35	60	41	74	33	21	17	15
25	8.9	29	73	352	42	59	39	68	30	27	17	15
26	32	56	57	1260	49	386	39	60	29	25	17	14
27	89	32	50	187	45	220	37	57	33	27	17	14
28	26	28	48	117	39	125	35	56	43	33	34	14
29	18	31	46	94	---	100	34	54	39	22	19	13
30	15	43	44	81	---	86	34	52	50	21	18	13
31	13	---	43	72	---	79	---	50	---	37	52	---
TOTAL	470.3	947	2480	3775	1293	2970	1469	3185	1332	1412	915	568
MEAN	15.2	31.6	80.0	122	46.2	95.8	49.0	103	44.4	45.5	29.5	18.9
MAX	89	90	657	1260	68	386	74	566	201	370	108	67
MIN	4.6	13	22	35	35	32	34	31	27	21	17	13
CFSM	.44	.91	2.30	3.51	1.33	2.75	1.41	2.96	1.28	1.31	.85	.54
IN.	.50	1.01	2.65	4.04	1.38	3.17	1.57	3.40	1.42	1.51	.98	.61

CAL YR 1977 TOTAL 11154.3 MEAN 30.6 MAX 657 MIN 3.6 CFSM .88 IN 11.92
WTR YR 1978 TOTAL 20816.3 MEAN 57.0 MAX 1260 MIN 4.6 CFSM 1.64 IN 22.25

01592500 PATUXENT RIVER NEAR LAUREL, MD

LOCATION.--Lat 39°06'56", long 76°52'27", Prince Georges County, Hydrologic Unit 02060006, on right bank at Rocky Gorge pumping station, 600 ft (180 m) downstream from T. Howard Duckett Reservoir, 0.7 mi (1.1 km) upstream from Walker Branch, 1.3 mi (2.1 km) northwest of Laurel, and 81 mi (130 km) upstream from mouth.

DRAINAGE AREA.--132 mi^2 (342 km^2).

PERIOD OF RECORD.--October 1944 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 153.5 ft (46.79 m) National Geodetic Vertical Datum of 1929 (levels by Washington Suburban Sanitary Commission). Prior to Oct. 1, 1955, water-stage recorder and concrete control at site 0.3 mi (0.5 km) downstream at different datum. Oct. 1, 1955, to Sept. 30, 1956, nonrecording gage at present site at datum 1.2 ft (0.37 m) lower. Oct. 1, 1956, to Jan. 27, 1957, nonrecording gage at present site and datum. Jan. 28, 1957, to May 3, 1972, water-stage recorder and concrete control at present site and datum. May 4, 1972, to Sept. 4, 1973, nonrecording gage at present site and datum.

REMARKS.--Records good. Records do not include diversion at Patuxent (formerly Willis School) filtration plant for supply of Washington Suburban Sanitary District. Flow regulated by Triadelphia Reservoir, and since March 1954 by T. Howard Duckett Reservoir, combined usable capacity, 12,500,000,000 gal (47.31 hm^3); dead storage, 80,000,000 gal (302,800 m^3). Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 26,000 ft^3/s (736 m^3/s) June 22, 1972, gage height, about 25 ft (7.6 m), from floodmarks, from rating curve extended above 6,600 ft^3/s (187 m^3/s) on basis of contracted-opening measurement of peak flow; minimum, 0.10 ft^3/s (0.003 m^3/s) Sept. 25, 1964, (valve closed for repair); minimum daily, 1.1 ft^3/s (0.031 m^3/s) June 26, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,460 ft^3/s (211 m^3/s) Jan. 26, gage height, 12.34 ft (3.761 m); minimum daily discharge, 14 ft^3/s (0.40 m^3/s) July 22, 28, Aug. 4, 5, 6, 13, 24, 25.

REVISIONS.--The maximum discharge for the water year 1976 has been revised to 3,770 ft^3/s (107 m^3/s) Jan. 1, 1976, gage height 10.43 ft (3.179 m), superseding figure published in the report for 1976.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	16	16	79	244	131	182	132	74	31	445	16
2	16	18	16	54	30	224	183	125	51	31	225	16
3	17	17	16	26	30	377	180	29	22	651	15	17
4	17	17	16	26	30	353	180	30	19	1130	14	17
5	17	17	17	25	29	158	137	81	18	384	14	17
6	17	17	16	22	29	26	118	131	34	20	14	17
7	16	18	16	21	29	26	141	129	70	21	46	17
8	17	17	17	58	29	26	170	129	78	20	29	17
9	17	17	16	145	26	26	161	130	89	20	16	17
10	16	17	16	242	23	26	85	129	91	20	15	17
11	17	17	16	273	23	27	30	129	89	19	298	17
12	16	16	16	555	22	27	31	129	91	20	338	17
13	17	16	16	587	40	251	31	131	91	20	14	17
14	16	16	16	117	68	413	31	131	62	19	17	18
15	17	17	16	117	100	412	32	680	33	19	23	17
16	17	16	16	117	124	411	100	2920	29	19	25	17
17	17	16	16	213	124	409	177	2000	23	19	25	17
18	17	16	17	272	125	411	149	826	23	128	21	17
19	17	16	16	289	124	129	132	302	24	167	22	17
20	20	16	76	460	124	102	133	117	25	61	23	18
21	21	16	128	202	63	102	103	119	18	15	23	17
22	19	16	162	138	23	102	30	185	15	14	16	17
23	18	16	317	138	23	103	30	287	42	15	15	17
24	17	16	367	194	23	102	30	359	84	15	14	17
25	17	16	366	861	23	102	31	101	74	16	14	17
26	17	16	255	4530	23	739	31	76	67	15	15	17
27	16	16	67	2930	82	1880	62	75	275	15	15	15
28	16	16	25	668	131	655	129	74	243	14	15	16
29	16	16	24	442	---	185	129	73	30	15	15	16
30	16	16	50	524	---	182	130	73	39	15	319	17
31	16	---	78	569	---	181	---	74	---	16	323	---
TOTAL	526	493	2222	14894	1764	8298	3088	9906	1923	2984	2423	506
MEAN	17.0	16.4	71.7	480	63.0	268	103	320	64.1	96.3	78.2	16.9
MAX	21	18	367	4530	244	1880	183	2920	275	1130	445	18
MIN	16	16	16	21	22	26	30	29	15	14	14	15
≠	7870	8720	10710	12030	11670	11710	11940	11390	12010	10160	9240	8350
‡	42.7	43.0	65.1	67.7	75.8	76.4	70.4	71.0	77.0	76.3	74.8	72.0

CAL YR 1977 TOTAL 13512 MEAN 37.0 MAX 964 MIN 15 ‡ 69.4
WTR YR 1978 TOTAL 49027 MEAN 134 MAX 4530 MIN 14 ‡ 67.7

≠ Combined month-end total contents, million of gallons, in Triadelphia and T. Howard Duckett Reservoirs, contents on Sept. 30, 1977: 7,890,000,000 gal (29.86 hm^3); furnished by Washington Suburban Sanitary Commission.

‡ Diversion, in cubic feet per second, above station at Patuxent (formerly Willis School) filtration plant for supply of Washington Suburban Sanitary District. Records furnished by Washington Suburban Sanitary Commission.

01593500 LITTLE PATUXENT RIVER AT GUILFORD, MD

LOCATION.--Lat 39°10'04", long 76°51'07", Howard County, Hydrologic Unit 02060006, on left bank 75 ft (23 m) upstream from bridge on State Highway 32, 1 mi (1.6 km) west of Guilford, 3 mi (4.8 km) upstream from Middle Patuxent River, 4 mi (6.4 km) north of Laurel, and 20.1 mi (32.3 km) upstream from mouth.

DRAINAGE AREA.--38.0 mi^2 (98.4 km^2).

PERIOD OF RECORD.--April 1932 to current year. Monthly discharge only for April 1932, published in WSP 1302.

REVISED RECORDS.--WSP 1502: 1933, 1934(M), 1939(M), 1945(M), 1948(P).

GAGE.--Water-stage recorder. Concrete control since June 20, 1946. Altitude of gage is 260 ft (79.2 m), from topographic map. Prior to June 25, 1946, nonrecording gage at same site and datum.

REMARKS.--Records good. Low flow affected by regulation from unknown source. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--46 years, 42.2 ft^3/s (1.195 m^3/s), 15.08 in/yr (383 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,400 ft^3/s (351 m^3/s) June 22, 1972, gage height, 18.38 ft (5.602 m), from high-water mark in well, from rating curve extended above 1,800 ft^3/s (51.0 m^3/s) on basis of contracted-opening measurement at gage height 13.26 ft (4.042 m) and contracted-opening and flow-over-embankment measurement at gage height 18.38 ft (5.602 m); no flow Sept. 8, and parts of Sept. 6, 7, 9-12, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above 800 ft^3/s (22 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 18	1230	2230	63.2	10.49	3.197
Jan. 9	0700	828	23.4	7.43	2.265
Jan. 26	1000	*3670	104	11.92	3.633
Mar. 26	1900	945	26.8	8.00	2.438

Minimum discharge, 4.0 ft^3/s (0.11 m^3/s) Oct. 1, 4, 5, 6, gage height, 2.49 ft (0.759 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	15	160	36	54	37	52	30	35	20	111	23
2	9.5	14	55	36	45	34	46	29	32	40	32	18
3	8.7	17	37	33	44	37	45	28	37	286	24	16
4	4.6	86	31	32	43	36	53	61	41	110	22	15
5	4.0	33	39	30	42	35	48	110	32	43	47	14
6	4.7	44	47	31	41	33	43	49	29	30	56	13
7	6.1	204	32	32	42	32	47	39	29	26	44	13
8	5.3	94	27	65	44	33	42	45	66	24	55	12
9	60	39	27	403	43	35	39	116	54	22	27	13
10	29	37	26	66	42	66	40	85	31	21	81	12
11	10	50	24	52	41	130	41	45	27	21	28	12
12	8.2	29	24	51	40	120	43	37	25	19	43	15
13	7.2	23	24	47	40	96	39	51	34	18	31	50
14	46	21	50	132	39	143	37	186	27	18	30	16
15	118	21	80	67	38	119	34	355	23	20	22	14
16	23	20	37	52	37	88	34	379	22	22	21	15
17	64	25	30	60	37	83	35	151	30	22	19	18
18	23	22	1170	168	39	69	35	96	30	18	17	14
19	13	19	541	76	38	57	80	75	24	17	16	13
20	12	17	125	62	37	56	73	63	22	16	15	12
21	10	19	199	52	37	46	46	54	23	15	14	12
22	9.6	24	89	47	35	51	39	45	53	15	14	16
23	9.1	84	59	46	34	41	36	43	25	14	14	16
24	8.8	43	50	45	34	39	35	56	21	13	13	13
25	8.9	33	55	338	41	37	35	48	21	70	13	12
26	116	91	45	1970	53	458	34	40	21	29	14	11
27	278	38	38	163	44	424	34	38	28	20	14	11
28	41	28	36	96	37	105	33	39	48	28	25	11
29	24	44	34	76	---	76	31	38	24	19	24	10
30	18	70	34	64	---	62	31	39	28	17	15	10
31	16	---	37	58	---	55	---	35	---	124	65	---
TOTAL	999.9	1304	3262	4486	1141	2733	1260	2505	942	1177	966	450
MEAN	32.3	43.5	105	145	40.8	88.2	42.0	80.8	31.4	38.0	31.2	15.0
MAX	278	204	1170	1970	54	458	80	379	66	286	111	50
MIN	4.0	14	24	30	34	32	31	28	21	13	13	10
CFSM	.85	1.15	2.76	3.82	1.07	2.32	1.11	2.13	.83	1.00	.82	.40
IN.	.98	1.28	3.19	4.39	1.12	2.68	1.23	2.45	.92	1.15	.95	.44

CAL YR 1977 TOTAL 12784.5 MEAN 35.0 MAX 1170 MIN 3.9 CFSM .92 IN 12.52
WTR YR 1978 TOTAL 21225.9 MEAN 58.2 MAX 1970 MIN 4.0 CFSM 1.53 IN 20.78

01594000 LITTLE PATUXENT RIVER AT SAVAGE, MD

LOCATION.--Lat 39°08'00", long 76°48'58", Howard County, Hydrologic Unit 02060006, on left bank 500 ft (150 m) downstream from bridge on U.S. Highway 1, 0.5 mi (0.8 km) southeast of Savage, 1.0 mi (1.6 km) downstream from Middle Patuxent River, and 16.1 mi (25.9 km) upstream from mouth.

DRAINAGE AREA.--98.4 mi² (254.9 km²).

PERIOD OF RECORD.--October 1939 to September 1958. Annual maximum, water years 1959-66, 68, 72, 75. October 1975 to current year. Prior to December 1939 monthly discharge only, published in WSP 1302.

GAGE.--Water-stage recorder. Altitude of gage is 125 ft (38.1 m), from topographic map. Prior to 1958, water-stage recorder at site 100 ft (30 m) upstream at same datum. October 1958 to September 1972, crest-stage gage 100 ft (30 m) upstream on right bank at same datum.

REMARKS.--Records good except those of no gage-height record on Jan. 26, which are fair. Some diurnal fluctuation at low flow caused by plant 0.5 mi (0.8 km) upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--22 years (water years 1940-58, 1976-78), 104 ft³/s (2.945 m³/s), 14.35 in/yr (364 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,400 ft³/s (1,000 m³/s) June 22, 1972; gage height, 25.4 ft (7.74 m), from floodmarks, from rating curve extended above 11,000 ft³/s (312 m³/s) on basis of contracted-opening measurement of peak flow; minimum daily, 7.0 ft³/s (0.20 m³/s) Sept. 19, 1943.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 18	1415	4730	134	10.87	3.313	May 15	1500	1650	46.7	7.03	2.143
Jan. 9	0730	1880	53.2	7.40	2.256	May 16	1645	1530	43.3	6.84	2.085
Jan. 26	Unknown	*6900	195	12.9	3.932	July 3	1715	1740	49.3	7.19	2.192
Mar. 26	2015	3480	98.6	9.52	2.902						

Minimum discharge, 14 ft³/s (0.40 m³/s) Oct. 5, 6, gage height, 2.53 ft (0.771 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	42	360	91	150	96	150	82	96	67	326	67
2	19	42	160	89	150	91	137	81	89	94	91	53
3	27	44	110	88	149	90	129	80	95	780	73	47
4	16	177	90	86	141	90	143	131	104	325	65	45
5	14	84	110	84	163	89	135	257	88	122	125	42
6	15	80	130	80	155	88	121	126	82	92	115	40
7	19	475	85	81	140	87	128	106	81	81	90	39
8	19	251	75	149	135	88	119	107	140	74	153	38
9	93	111	80	959	130	89	109	241	128	72	74	37
10	77	90	100	150	125	130	108	199	86	68	163	41
11	29	127	110	95	120	341	109	120	79	66	77	36
12	24	79	75	90	115	383	114	104	75	60	93	39
13	22	65	63	110	110	323	104	113	87	58	93	95
14	64	58	90	351	106	492	100	408	79	58	93	46
15	240	57	162	177	105	393	95	986	71	62	69	41
16	56	55	87	120	100	251	93	1130	70	67	63	41
17	112	62	73	145	98	224	93	455	81	70	59	46
18	62	60	2590	503	103	209	93	256	91	61	53	40
19	45	52	1280	193	100	192	166	197	74	55	49	39
20	35	50	339	160	100	191	170	163	69	53	47	37
21	36	49	583	140	98	150	120	144	67	50	43	36
22	32	49	250	122	95	156	105	124	174	49	42	44
23	29	163	165	100	95	134	97	116	78	47	42	47
24	27	106	143	115	93	125	95	134	67	44	41	40
25	27	77	144	926	99	116	94	126	65	120	41	37
26	186	179	120	4500	139	1500	93	110	63	77	41	34
27	597	90	105	514	120	1240	90	102	69	59	41	32
28	104	72	100	240	100	317	88	104	132	74	65	32
29	64	85	98	210	---	217	85	104	71	57	60	32
30	51	140	95	180	---	178	84	103	100	50	46	31
31	45	---	94	165	---	160	---	97	---	269	111	---
TOTAL	2201	3071	8066	11013	3334	8230	3367	6606	2651	3281	2544	1274
MEAN	71.0	102	260	355	119	265	112	213	88.4	106	82.1	42.5
MAX	597	475	2590	4500	163	1500	170	1130	174	780	326	95
MIN	14	42	63	80	93	87	84	80	63	44	41	31
CFSM	.72	1.04	2.64	3.61	1.21	2.69	1.14	2.17	.90	1.08	.83	.43
IN.	.83	1.16	3.05	4.16	1.26	3.11	1.27	2.50	1.00	1.24	.96	.48

CAL YR 1977 TOTAL 33690 MEAN 92.3 MAX 2590 MIN 12 CFSM .94 IN 12.74
WTR YR 1978 TOTAL 55638 MEAN 152 MAX 4500 MIN 14 CFSM 1.55 IN 21.03

01594440 PATUXENT RIVER NEAR BOWIE, MD

LOCATION.--Lat 38°57'21", long 76°41'36", Anne Arundel County, Hydrologic Unit 020600006, on left bank 45 ft (14 m) upstream from bridge on U.S. Highway 50 (John Hanson Highway), 3.0 mi (4.8 km) west of Bowie City Hall, 3.1 mi (5.0 km) downstream from mouth of Little Patuxent River, 4.2 mi (6.8 km) northwest of Davidsonville, and 60 mi (97 km) upstream from mouth.

DRAINAGE AREA.--348 mi^2 (901 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1955 to June 1977 (gage heights and discharge measurements only), August 1977 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5 ft (2 m) from topographic map. Prior to June 27, 1977, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good. Some regulation at low flow by Rocky Gorge Dam, 21 mi (34 km) above station. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,100 ft^3/s (881 m^3/s) June 22, 1972, gage height, 27.9 ft (8.50 m), from floodmarks, on basis of contracted opening measurement of peak flow; minimum observed, 32 ft^3/s (0.91 m^3/s); minimum daily 61 ft^3/s (1.73 m^3/s) Sept. 14, 15, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,200 ft^3/s (62 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 19	1630	7020	199	15.36	4.682	Mar. 27	2300	4710	133	13.07	3.984
Jan. 9	2330	2950	83.5	11.11	3.386	May 17	1130	4910	139	13.29	4.051
Jan. 27	1400	*10600	300	18.04	5.499	July 4	1330	2210	62.6	10.27	3.130

Minimum discharge, 60 ft^3/s (1.70 m^3/s) Oct. 1, gage height, 3.43 ft (1.046 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	144	800	348	1040	377	585	305	277	178	988	497
2	69	135	750	332	740	364	549	302	257	187	986	157
3	70	141	351	263	364	463	509	270	249	565	525	126
4	75	317	268	207	333	573	503	285	307	1810	220	116
5	68	327	245	230	291	704	501	751	221	1450	436	112
6	65	210	332	237	324	399	422	542	196	1010	423	109
7	66	899	257	242	326	261	410	427	206	261	250	105
8	69	1170	192	373	340	249	432	388	253	196	321	104
9	124	535	189	1920	319	258	423	820	389	177	227	105
10	285	308	183	1650	287	302	413	997	280	177	229	102
11	119	424	152	777	278	595	314	588	245	205	223	104
12	89	280	151	664	267	856	291	434	236	152	539	103
13	78	204	165	807	265	792	268	410	258	136	703	217
14	143	179	192	1560	297	924	250	702	261	134	455	159
15	671	165	552	1070	309	1490	236	1580	192	139	232	122
16	318	160	351	556	347	1130	233	3630	168	145	194	119
17	288	177	234	603	369	1030	313	4560	168	163	162	144
18	257	185	1120	1500	382	963	387	2940	209	144	143	121
19	152	156	5700	1170	390	869	520	1550	174	235	130	112
20	120	145	3470	869	373	632	684	985	159	250	124	108
21	109	142	1240	945	377	479	517	537	153	148	118	106
22	104	160	1380	625	288	481	320	442	244	116	114	107
23	101	344	775	470	236	442	260	494	193	112	107	131
24	97	432	745	455	245	401	240	691	168	106	103	115
25	95	263	811	1230	254	374	230	823	188	107	102	106
26	179	570	806	4430	321	866	230	407	176	200	104	103
27	1220	422	601	8860	320	3720	240	321	178	132	105	98
28	1090	245	314	4430	359	3420	290	312	432	129	169	99
29	293	221	255	1960	---	1660	305	303	391	146	152	97
30	199	368	263	1060	---	778	305	319	187	115	123	97
31	166	---	351	952	---	629	---	288	---	227	383	---
TOTAL	6842	9428	23195	40795	10041	26481	11180	27403	7015	9252	9090	3901
MEAN	221	314	748	1316	359	854	373	884	234	298	293	130
MAX	1220	1170	5700	8860	1040	3720	684	4560	432	1810	988	497
MIN	63	135	151	207	236	249	230	270	153	106	102	97
CFSM	.64	.90	2.15	3.78	1.03	2.45	1.07	2.54	.67	.86	.84	.37
IN.	.73	1.01	2.48	4.36	1.07	2.83	1.20	2.93	.75	.99	.97	.42

WTR YR 1978 TOTAL 184623 MEAN 506 MAX 8860 MIN 63 CFSM 1.45 IN 19.74

01594440 PATUXENT RIVER NEAR BOWIE, MD--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1977 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: December 1977 to current year.
WATER TEMPERATURES: December 1977 to current year.

REMARKS.--Samples collected daily by a local observer. Analyses were made each month on those samples having the maximum and minimum specific conductance for the month.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)
OCT												
07...	1400	68	--	--	15.0	13.5	--	--	--	--	--	--
07...	1405	68	--	--	15.0	13.5	--	--	--	--	--	--
DEC												
13...	1300	185	--	--	6.5	2.5	--	--	--	--	--	--
13...	1325	185	--	--	6.5	2.5	--	--	--	--	--	--
JAN												
30...	1515	1000	153	6.9	2.0	1.0	30	--	13.2	<1	450	34
MAR												
09...	--	--	364	--	--	5.0	--	--	--	--	--	--
14...	1415	1000	195	5.0	13.0	5.5	60	--	--	31	130	36
21...	--	--	--	--	--	8.0	--	--	--	--	--	--
23...	--	--	132	--	--	11.0	--	--	--	--	--	--
APR												
11...	1445	306	200	6.6	25.5	13.0	9	--	8.8	K7	28	43
MAY												
10...	1215	1050	170	7.2	19.0	16.0	150	--	7.8	2800	4700	35
15...	1330	1620	160	7.0	18.0	15.0	90	--	8.4	22000	K15000	40
JUL												
11...	1400	218	215	7.1	23.0	23.0	--	25	--	670	510	47
AUG												
15...	1500	230	200	7.2	28.0	23.0	--	45	7.2	190	430	48
SEP												
12...	1315	103	238	7.1	30.0	22.5	--	6.0	4.5	92	260	54

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
OCT												
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
13...	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
30...	17	9.2	2.7	11	2.8	21	17	14	17	.1	7.9	84
MAR												
09...	--	--	--	--	--	--	--	--	--	--	--	--
14...	21	10	2.7	14	3.3	18	15	16	25	.1	8.4	99
21...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
11...	15	12	3.1	13	2.6	34	28	16	19	.1	9.3	106
MAY												
10...	19	10	2.5	13	2.3	20	16	17	19	.1	6.7	105
15...	22	12	2.4	11	2.6	22	18	16	17	.1	6.0	91
JUL												
11...	26	13	3.5	15	3.4	--	21	19	22	.2	10	128
AUG												
15...	25	14	3.2	13	3.5	29	23	16	19	.2	10	121
SEP												
12...	22	16	3.4	18	3.5	--	32	19	23	.3	8.9	141

01594440 PATUXENT RIVER NEAR BOWIE, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)
OCT												
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
13...	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
30...	75	1.2	.56	.54	1.3	.19	.12	0	0	0	0	1
MAR												
09...	--	--	--	--	--	--	--	--	--	--	--	--
14...	88	1.3	.78	.72	1.3	.36	.18	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
11...	92	1.7	.81	--	1.3	.48	.37	--	--	--	--	--
MAY												
10...	80	.93	.27	.69	1.9	.33	.12	--	--	--	--	--
15...	78	.91	.26	.74	.49	.36	.10	1	0	0	0	1
JUL												
11...	99	2.4	.48	.82	.99	.71	.46	--	--	--	--	--
AUG												
15...	108	1.7	.27	.53	.72	.68	.36	1	1	100	100	4
SEP												
12...	111	3.7	.36	.84	1.1	1.3	1.2	--	--	--	--	--

DATE	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)
OCT												
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
13...	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
30...	3	<10	2	3	3	7	4	1300	120	20	35	120
MAR												
09...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
11...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
10...	--	--	--	--	--	--	--	--	--	--	--	--
15...	0	20	0	4	2	7	2	7200	230	90	9	200
JUL												
11...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
15...	4	10	1	4	2	8	6	3800	700	20	1	240
SEP												
12...	--	--	--	--	--	--	--	--	--	--	--	--

01594440 PATUXENT RIVER NEAR BOWIE, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C)
OCT												
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
13...	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
30...	100	<.5	<.5	0	0	0	0	30	30	--	3.2	--
MAR												
09...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	7.4	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
11...	--	--	--	--	--	--	--	--	--	4.8	--	--
MAY												
10...	--	--	--	--	--	--	--	--	--	12	--	--
15...	110	<.5	<.5	0	0	1	0	40	20	--	6.5	.6
JUL												
11...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
15...	220	<.5	<.5	0	0	2	2	20	0	--	5.1	1.8
SEP												
12...	--	--	--	--	--	--	--	--	--	4.5	--	--

DATE	PHYTOPLANKTON, TOTAL (CELLS PER ML)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M	PERIPHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
JAN						
30...	--	--	--	37	100	92
MAR						
14...	310	--	--	139	375	91
APR						
11...	--	--	--	14	12	100
MAY						
10...	2500	--	--	109	309	97
15...	1300	--	--	--	--	--
JUL						
11...	3100	--	--	46	27	91
11-31	--	3.62	4.88	--	--	--
AUG						
01-15	--	3.62	4.88	--	--	--
15...	0	--	--	65	40	96
SEP						
12...	0	--	--	14	3.9	100

01594440 PATUXENT RIVER NEAR BOWIE, MD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	186	480	205	175	197	---	202	135	170
2			---	176	180	225	151	---	---	195	118	---
3			---	205	205	150	185	---	---	143	130	---
4			---	205	480	160	162	195	---	109	140	---
5			---	228	320	175	160	198	---	127	185	---
6			---	171	500	140	160	---	---	145	140	---
7			---	190	140	215	180	---	---	187	178	---
8			---	190	105	---	160	---	185	200	---	---
9			171	143	235	370	190	---	---	220	180	---
10			171	152	250	---	---	---	177	---	205	---
11			219	152	---	215	---	197	182	205	195	---
12			228	---	270	220	190	195	178	---	130	---
13			219	152	260	225	163	---	178	215	130	---
14			209	---	230	---	182	179	188	---	---	---
15			232	334	280	175	161	199	190	210	178	---
16			209	266	240	175	187	---	---	210	175	190
17			---	---	220	175	162	---	215	205	215	220
18			110	418	250	---	162	---	212	205	185	230
19			95	---	250	180	188	---	202	160	225	225
20			152	---	205	175	160	---	---	160	187	190
21			152	---	235	480	161	---	200	195	170	200
22			133	123	200	---	188	158	201	235	185	---
23			152	285	---	138	192	---	202	215	---	240
24			171	247	---	170	193	196	185	---	---	225
25			166	120	225	175	---	---	---	220	230	185
26			---	171	185	200	181	---	188	200	220	---
27			152	---	480	180	---	198	193	---	180	245
28			---	---	200	---	161	195	---	220	---	240
29			186	257	---	175	---	---	---	---	185	242
30			152	138	---	175	160	198	---	---	220	---
31			186	---	---	175	---	---	---	235	136	---
MEAN			173	205	265	202	173	192	192	192	175	216

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	3.5	3.0	4.0	15.0	9.5	---	22.0	23.0	22.0
2			---	4.0	1.5	4.0	13.0	---	---	22.5	24.0	---
3			---	4.0	2.0	4.0	12.0	---	---	21.0	23.5	---
4			---	3.5	2.0	5.5	10.0	13.5	---	23.0	---	---
5			---	2.0	3.0	7.0	8.0	13.0	---	---	---	---
6			---	2.0	3.0	6.0	11.0	---	---	---	---	---
7			---	4.0	4.0	6.0	11.0	---	---	---	24.5	---
8			---	7.0	7.0	---	10.0	---	21.0	---	---	---
9			5.0	4.0	6.0	5.0	13.0	---	---	---	---	---
10			3.0	2.0	5.0	---	---	---	22.0	---	---	---
11			1.0	3.0	---	6.0	---	9.0	21.0	---	24.0	---
12			2.0	---	3.0	8.0	8.5	14.0	22.0	---	24.0	---
13			4.0	4.5	5.0	7.0	7.5	---	19.5	---	23.0	---
14			8.0	---	4.5	---	7.0	---	19.0	---	---	---
15			3.0	6.0	5.0	6.5	7.0	12.0	17.0	---	24.0	---
16			3.0	4.0	8.0	5.0	9.0	---	---	---	23.0	21.0
17			---	---	5.0	6.0	9.0	---	20.0	---	---	21.5
18			8.0	1.0	3.0	---	8.0	---	22.0	24.0	---	21.0
19			4.0	---	4.0	19.0	12.0	---	22.5	23.0	---	23.0
20			6.0	---	2.5	9.0	9.5	---	---	23.0	---	22.0
21			6.0	---	2.0	8.0	13.0	---	23.0	24.5	---	21.0
22			6.0	4.0	7.0	---	10.5	---	23.0	---	---	---
23			5.0	3.0	---	11.0	9.0	---	23.5	---	---	20.0
24			3.0	2.5	---	9.0	10.0	14.0	24.0	---	---	18.0
25			3.0	3.0	4.0	10.0	---	---	---	---	---	17.0
26			---	1.5	4.5	8.0	16.0	---	23.0	---	---	18.0
27			2.5	---	6.0	10.0	---	17.0	23.0	---	23.5	17.0
28			---	---	5.0	---	14.0	18.0	---	---	---	15.0
29			2.0	17.0	---	8.0	---	---	---	---	23.0	15.0
30			3.0	1.0	---	8.0	15.0	19.0	---	---	24.0	---
31			3.0	---	---	11.0	---	---	---	---	---	---
MEAN			4.0	4.0	4.0	7.5	10.5	14.0	21.5	23.0	23.5	19.5

01594440 PATUXENT RIVER NEAR BOWIE, MD--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO JULY 1978

DATE	MAR 14,78	MAY 10,78	MAY 15,78	JUL 11,78
TIME	1415	1215	1330	1400
TOTAL CELLS/ML	310	2500	1300	3100
DIVERSITY: DIVISION	0.9	1.2	0.8	1.5
.CLASS	0.9	1.2	0.8	1.5
..ORDER	1.4	1.6	0.8	2.3
...FAMILY	3.1	2.8	2.4	3.2
....GENUS	3.1	3.4	2.7	3.5

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...COELASTRACEAE								
....COELASTRUM	--	-	--	-	--	-	220	7
...MICRACTINIACEAE								
....MICRACTINIUM	--	-	--	-	--	-	230	7
...OOCYSTACEAE								
....ANKISTRODESMUS	--	-	14	1	72	6	100	3
....CLOSTERIOPSIS	--	-	14	1	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	*	0
....OOCYSTIS	--	-	--	-	--	-	240	8
....SELENASTRUM	--	-	--	-	--	-	43	1
....TREUBARIA	--	-	--	-	--	-	43	1
...SCENEDESMACEAE								
....SCENEDESMUS	--	-	110	5	--	-	290	9
..TETRASPORALES								
...PALMELLACEAE								
....SPHAEROCYSTIS	--	-	--	-	--	-	72	2
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	31	10	--	-	--	-	110	4
..ZYGNEMATALES								
...DESMIDIACEAE								
....CLOSTERIUM	--	-	14	1	--	-	--	-
....COSMARIUM	--	-	--	-	--	-	*	0
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	--	-	57	2	--	-	130	4
....MELOSIRA	42	13	230	9	--	-	43	1
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	*	0	--	-	--	-
....RHOICOSPHENIA	--	-	--	-	72	6	--	-
...CYMBELLACEAE								
....CYMBELLA	10	3	86	3	--	-	29	1
...EUNOTIACEAE								
....EUNOTIA	--	-	*	0	--	-	--	-
...FRAGILARIACEAE								

Continued

01594440 PATUXENT RIVER NEAR BOWIE, MD--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO JULY 1978

....ASTERIONELLA	--	-	43	2	360#	28	--	-
....FRAGILARIA	--	-	420#	17	--	-	--	-
....SYNEDRA	31	10	240	10	72	6	*	0
...GOMPHONEMATACEAE								
....GOMPHONEMA	31	10	86	3	140	11	--	-
...NAVICULACEAE								
....CALONEIS	--	-	14	1	--	-	--	-
....FRUSTULIA	--	-	29	1	--	-	--	-
....NAVICULA	31	10	140	6	72	6	29	1
....STAURONEIS	--	-	--	-	--	-	*	0
...NITZSCHIACEAE								
....HANTZSCHIA	--	-	14	1	--	-	--	-
....NITZSCHIA	52#	17	170	7	360#	28	86	3
...SURIRELLACEAE								
....SURIRELLA	63#	20	86	3	--	-	43	1
...TABELLARIACEAE								
....TABELLARIA	--	-	29	1	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONIDALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	10	3	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROCCOCCALES								
...CHROCCOCCAEAE								
....ANACYSTIS	--	-	--	-	--	-	930#	30
..HORMOGONALES								
...OSCILLATORIACEAE								
....OSCILLATORIA	--	-	700#	28	--	-	360	12
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	10	3	--	-	--	-	--	-
....TRACHELOMONAS	--	-	--	-	140	11	43	1

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
      * - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

01595000 NORTH BRANCH POTOMAC RIVER AT STEYER, MD

LOCATION.--Lat 39°18'07", long 79°18'26", Garrett County, Hydrologic Unit 02070002, on left bank 0.3 mi (0.5 km) southeast of Steyer, 0.4 mi (0.6 km) downstream from Steyer Run, 2.0 mi (3.2 km) northeast of Gorman, and at mile 81.8 (131.6 km).

DRAINAGE AREA.--73.0 mi² (189.1 km²).

PERIOD OF RECORD.--July 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,276.01 ft (693.728 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--22 years, 172 ft³/s (4.871 m³/s), 32.00 in/yr (813 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,900 ft³/s (195 m³/s) July 3, 1978, gage height, 10.30 ft (3.139 m), from rating curve extended above 3,000 ft³/s (85.0 m³/s) on basis of slope-area measurement of peak flow; minimum, 2.9 ft³/s (0.082 m³/s) Sept. 10, 1965, gage height, 2.03 ft (0.619 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 15, 1954, reached a stage of 13.0 ft (3.96 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,200 ft³/s (62 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Mar. 21	2215	2400	68.0	6.22	1.896	Aug. 6	1845	2270	64.3	6.18	1.884
July 3	1115	*6900	195	10.30	3.139						

Minimum discharge, 15 ft³/s (0.42 m³/s) Sept. 30, gage height, 2.21 ft (0.674 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	52	1160	96	120	54	522	276	100	92	196	101
2	177	53	626	88	115	52	452	255	85	239	137	64
3	93	53	413	80	110	58	345	212	110	3600	135	54
4	90	73	312	86	105	58	289	290	125	1390	181	80
5	59	120	345	105	100	56	379	586	85	569	230	56
6	62	175	362	115	92	56	278	475	78	323	684	46
7	67	472	259	130	84	60	511	409	74	219	529	39
8	68	1040	223	180	78	60	354	444	105	262	335	39
9	323	447	198	370	72	65	282	566	105	251	199	36
10	204	347	154	180	70	80	238	500	85	241	155	35
11	128	307	150	170	66	100	214	400	70	349	131	32
12	100	233	145	165	64	150	207	330	62	190	167	38
13	82	204	165	150	64	306	171	500	58	150	123	72
14	73	176	448	146	66	650	150	700	64	288	103	46
15	66	164	575	145	68	1170	138	1000	58	199	85	47
16	140	164	327	141	66	537	128	700	64	168	70	62
17	153	205	255	132	62	345	121	500	78	236	59	116
18	109	260	305	130	60	252	127	408	42	150	49	56
19	114	196	315	125	58	344	166	323	30	122	50	42
20	127	167	299	120	56	486	386	255	28	107	49	36
21	102	154	279	116	54	1160	443	217	38	101	46	35
22	92	180	218	112	52	1450	364	182	68	86	41	32
23	81	409	188	108	52	1060	302	175	56	80	39	33
24	76	297	173	105	60	1020	270	227	49	97	36	27
25	68	252	275	350	58	815	284	260	48	112	32	27
26	68	307	188	850	58	1070	531	210	60	91	35	25
27	78	236	160	510	56	935	447	190	270	75	36	23
28	76	211	150	349	54	844	343	170	600	81	35	20
29	65	229	135	250	---	857	302	150	200	71	36	18
30	59	362	120	180	---	665	286	135	113	194	36	17
31	53	---	105	140	---	518	---	125	---	419	215	---
TOTAL	3085	7545	9027	5924	2020	15333	9030	11170	3008	10552	4254	1354
MEAN	99.5	252	291	191	72.1	495	301	360	100	340	137	45.1
MAX	323	1040	1160	850	120	1450	531	1000	600	3600	684	116
MIN	32	52	105	80	52	52	121	125	28	71	32	17
CFSM	1.36	3.45	3.99	2.62	.99	6.78	4.12	4.93	1.37	4.66	1.88	.62
IN.	1.57	3.84	4.60	3.02	1.03	7.81	4.60	5.69	1.53	5.38	2.17	.69

CAL YR 1977 TOTAL 55133 MEAN 151 MAX 1300 MIN 14 CFSM 2.07 IN 28.09
WTR YR 1978 TOTAL 82302 MEAN 225 MAX 3600 MIN 17 CFSM 3.08 IN 41.94

01595200 STONY RIVER NEAR MT. STORM, WV

LOCATION.--Lat 39°16'10", long 79°15'45", Grant County, Hydrologic Unit 02070002, on left bank 100 ft (30 m) downstream from highway bridge on U.S. Highway 50, 1.0 mi (1.6 km) west of Mt. Storm, and at mile 6.4 (10.3 km).

DRAINAGE AREA.--48.8 mi^2 (126.4 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,554.54 ft (778.624 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for ice-affected days in January and February, which are poor. Flow regulated by Stony River Reservoir, 14.0 mi (22.5 km) upstream from station, capacity, 1,948,000,000 gal (7.373 hm^3), of which 1,681,000,000 gal (6.363 hm^3) is controlled above minimum pool. Since 1963, minor regulation by Virginia Electric and Power Company dam 4.0 mi (6.4 km) upstream from station.

AVERAGE DISCHARGE.--17 years, 97.0 ft^3/s (2.747 m^3/s), 26.99 in/yr (686 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,340 ft^3/s (151 m^3/s) July 3, 1978, from rating curve extended above 2,500 ft^3/s (70.8 m^3/s); gage height, 10.34 ft (3.152 m); minimum, 1.8 ft^3/s (0.051 m^3/s) July 13, 1968; minimum daily, 1.9 ft^3/s (0.054 m^3/s) July 13, 1968; minimum gage height, 1.81 ft (0.552 m), Sept. 30, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,340 ft^3/s (151 m^3/s) July 3, gage height, 10.34 ft (3.152 m); minimum, 3.3 ft^3/s (0.093 m^3/s) Sept. 30, gage height, 1.81 ft (0.552 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	14	276	32	29	34	197	60	75	89	68	14
2	17	20	113	32	26	35	262	61	49	157	49	8.4
3	13	36	82	33	25	40	276	58	57	2560	39	7.4
4	12	66	67	34	22	40	301	87	47	1540	41	7.2
5	11	103	74	34	20	40	331	164	35	458	36	5.8
6	11	174	101	38	20	41	206	131	34	81	65	5.6
7	11	712	83	43	20	40	139	120	37	85	85	5.0
8	13	2530	76	82	18	44	182	148	44	95	71	4.5
9	39	1620	71	169	17	46	203	233	47	78	50	4.0
10	22	1230	67	150	18	51	180	206	43	74	43	3.9
11	15	938	65	139	17	56	162	177	41	206	39	5.9
12	13	684	66	131	17	81	144	152	40	122	43	5.8
13	12	515	68	180	16	94	127	255	49	39	40	8.1
14	12	395	159	164	17	363	113	367	65	65	39	5.9
15	11	266	216	144	15	535	101	590	62	54	36	8.4
16	18	53	241	129	14	375	91	777	116	49	35	12
17	20	60	245	124	14	287	84	596	87	50	31	20
18	14	71	255	115	15	233	83	383	11	44	23	15
19	15	48	255	107	17	137	95	197	9.9	39	20	10
20	17	39	223	115	18	135	112	150	13	37	16	7.3
21	14	36	191	99	23	304	113	83	25	33	13	6.0
22	13	44	164	92	23	1080	99	76	43	28	13	5.2
23	12	102	141	85	24	221	91	79	55	24	10	5.6
24	12	63	131	80	28	280	84	110	63	24	9.6	5.2
25	12	63	188	152	29	565	83	167	71	25	7.8	4.8
26	14	71	139	422	29	607	172	159	75	20	6.6	4.4
27	19	56	120	734	32	920	131	150	115	17	5.8	4.0
28	21	50	112	966	33	596	87	137	197	21	5.5	3.7
29	17	52	105	56	---	462	71	126	99	15	5.5	3.6
30	15	99	39	38	---	744	57	118	94	55	5.2	3.4
31	14	---	32	33	---	194	---	105	---	162	32	---
TOTAL	469	10230	4165	4752	596	8680	4377	6222	1798.9	6346	983.0	210.1
MEAN	15.1	341	134	153	21.3	280	146	201	60.0	205	31.7	7.00
MAX	39	2530	276	966	33	1080	331	777	197	2560	85	20
MIN	10	14	32	32	14	34	57	58	9.9	15	5.2	3.4
(†)	961	1241	1258	1149	1149	1022	1403	1411	1405	1399	1411	1391

CAL YR 1977 TOTAL 33382.9 MEAN 91.5 MAX 2530 MIN 8.0 CFSM 1.88 IN 25.44
WTR YR 1978 TOTAL 48829.0 MEAN 134 MAX 2560 MIN 3.4 CFSM 2.75 IN 37.21

† Month-end contents, in millions of gallons, in Stony River Reservoir, furnished by West Virginia Pulp and Paper Co.

01595200 STONY RIVER NEAR MOUNT STORM, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: December 1961 to March 1974, September 1974 to current year.

INSTRUMENTATION.--Temperature recorder since December 1961.

REMARKS.--Temperature recorder pen did not ink Sept. 19-30.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum, 27°C July 1, Aug. 22, 23, 1968; minimum, 0. C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 25.0°C June 27; minimum, 0.0°C on many days during period December to March.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	15.0	13.0	8.0	7.0	5.5	3.5	1.5	1.0	.0	.0	.0	.0
2	15.0	13.5	9.5	8.0	4.5	4.0	1.0	1.0	.0	.0	.0	.0
3	13.5	11.0	10.5	9.5	3.5	3.5	1.0	1.0	.0	.0	.0	.0
4	11.0	10.0	12.0	10.5	3.5	3.5	1.0	.0	.0	.0	.0	.0
5	11.0	8.0	12.0	12.0	3.5	2.5	.0	.0	.0	.0	.0	.0
6	10.5	10.0	12.0	12.0	2.5	1.0	.0	.0	.0	.0	.0	.0
7	10.0	8.0	12.5	12.0	1.0	.5	1.0	.0	.0	.0	.0	.0
8	10.0	9.0	16.5	12.5	.5	.5	2.5	1.0	.0	.0	.0	.0
9	10.0	10.0	16.5	16.5	1.0	.5	2.5	1.5	.0	.0	.0	.0
10	10.0	9.0	16.5	15.0	1.0	.5	1.5	1.0	.0	.0	.0	.0
11	10.5	8.0	15.0	14.0	.5	.5	1.0	1.0	.0	.0	2.0	.0
12	10.5	8.5	14.0	13.0	.5	.0	1.5	1.0	.0	.0	3.0	2.0
13	8.5	6.5	13.0	12.0	2.0	.5	2.0	1.0	.0	.0	4.0	3.0
14	8.5	7.5	12.0	11.5	3.0	2.0	2.0	2.0	.0	.0	4.0	3.0
15	9.0	7.0	11.5	9.0	4.0	3.0	2.0	1.0	.0	.0	4.0	3.0
16	8.5	7.0	9.0	7.5	4.5	4.0	1.5	1.0	.0	.0	4.5	4.0
17	7.0	6.0	8.0	6.5	5.5	4.5	1.5	1.0	.0	.0	4.5	4.0
18	8.0	6.0	6.5	4.5	5.5	5.5	2.0	1.0	.0	.0	5.5	4.0
19	8.0	7.0	4.5	3.5	5.5	5.0	1.5	1.0	.0	.0	5.0	3.0
20	8.0	7.0	4.5	4.0	5.0	4.0	1.0	1.0	.0	.0	4.0	2.0
21	9.0	7.0	7.0	4.5	5.0	4.5	1.0	1.0	.0	.0	4.0	3.0
22	10.0	8.0	7.0	5.5	4.5	4.0	1.0	1.0	.0	.0	6.5	3.0
23	10.0	9.0	5.5	5.5	4.0	4.0	1.0	.0	.0	.0	5.5	4.0
24	10.0	7.5	6.5	5.5	4.5	4.0	1.5	.0	.0	.0	5.5	4.5
25	10.0	9.0	6.0	5.0	4.5	3.0	1.5	1.5	.0	.0	6.0	5.0
26	11.0	10.0	5.0	2.0	3.0	2.0	1.5	1.5	.0	.0	6.0	5.5
27	11.5	11.0	2.0	1.5	2.0	2.0	2.5	1.0	.0	.0	6.0	6.0
28	12.0	11.0	2.5	1.5	2.0	1.5	2.5	1.0	.0	.0	6.5	5.0
29	11.0	8.5	2.5	2.5	2.0	1.5	.0	.0	---	---	7.0	5.0
30	9.0	7.0	3.5	2.5	2.0	1.0	.0	.0	---	---	7.0	6.0
31	8.0	6.0	---	---	2.0	1.5	.0	.0	---	---	7.0	5.0
MONTH	15.0	6.0	16.5	1.5	5.5	.0	2.5	.0	.0	.0	7.0	.0

01595200 STONY RIVER NEAR MOUNT STORM, WV--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.0	6.0	11.0	7.0	23.0	19.5	24.0	22.0	20.5	19.5	19.0	18.0
2	8.5	6.5	11.5	7.0	22.0	19.0	24.0	21.0	22.0	21.0	19.0	15.0
3	8.0	7.0	12.5	7.5	21.0	17.0	22.0	18.0	22.0	21.0	19.5	16.5
4	9.5	8.0	11.5	8.0	17.0	15.0	22.0	21.0	22.0	21.5	19.0	17.0
5	10.0	9.0	9.0	8.0	17.0	15.0	22.0	21.0	22.0	21.5	18.5	14.5
6	9.0	8.0	9.5	9.0	17.5	15.5	21.0	19.0	21.5	21.5	19.0	15.0
7	10.0	8.0	12.5	9.5	17.5	17.0	21.0	19.0	22.0	21.5	21.0	17.0
8	11.0	8.0	13.0	12.0	18.0	17.5	21.0	20.0	21.5	21.0	21.0	19.0
9	11.0	8.0	16.0	12.0	18.0	17.5	21.0	19.0	21.5	21.5	21.0	19.0
10	12.0	9.5	15.0	14.0	19.0	15.0	21.0	20.5	21.5	21.5	21.0	18.5
11	12.5	11.0	18.0	13.5	20.0	16.5	24.0	20.5	22.0	21.5	20.0	17.5
12	12.5	9.0	17.5	16.0	21.5	18.5	22.5	21.0	22.0	21.5	20.5	18.0
13	12.0	9.5	16.5	13.0	21.0	18.0	21.0	17.0	21.5	21.5	20.0	16.0
14	11.0	8.0	14.5	13.0	19.0	16.0	20.0	19.0	22.0	21.5	16.0	15.5
15	11.0	8.0	15.0	14.5	20.0	16.0	21.5	19.5	22.0	22.0	19.0	15.5
16	11.5	7.0	15.0	14.5	21.5	18.0	21.5	20.0	22.0	21.5	18.0	16.5
17	12.0	8.0	15.0	15.0	23.0	21.5	20.5	19.0	22.5	22.0	18.0	17.0
18	10.5	8.5	16.0	15.0	23.0	20.0	21.0	18.5	22.0	21.0	20.0	17.0
19	9.5	9.0	18.0	15.5	22.5	20.0	22.0	19.5	22.0	21.0	---	---
20	9.5	8.0	19.0	16.0	21.0	19.0	22.5	21.5	22.0	21.5	---	---
21	8.0	8.0	17.5	16.5	19.5	18.0	23.0	19.5	21.0	20.5	---	---
22	10.5	7.5	18.0	13.5	21.0	18.0	23.5	22.5	19.5	17.5	---	---
23	10.0	7.0	17.0	15.5	21.5	18.0	24.5	22.5	21.0	18.0	---	---
24	11.5	9.5	17.5	16.0	21.0	19.0	24.0	22.5	21.0	17.0	---	---
25	10.0	9.0	21.5	17.5	22.0	19.0	22.5	21.5	22.0	20.0	---	---
26	9.0	7.0	22.5	18.5	23.0	21.5	23.0	21.0	21.5	19.0	---	---
27	11.0	7.0	23.5	20.0	25.0	21.0	22.5	21.5	21.0	19.0	---	---
28	11.0	7.0	23.5	21.0	24.0	21.5	22.5	21.5	20.5	19.0	---	---
29	12.0	7.0	23.5	21.5	24.5	21.5	21.5	18.5	21.5	19.5	---	---
30	11.0	9.0	23.5	21.5	24.0	21.5	21.5	20.5	21.0	20.0	---	---
31	---	---	23.0	22.0	---	---	20.5	19.5	20.5	19.0	---	---
MONTH	12.5	6.0	23.5	7.0	25.0	15.0	24.5	17.0	22.5	17.0	21.0	14.5

01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD

LOCATION.--Lat 39°23'38", long 79°10'55", Garrett County, Hydrologic Unit 02070002, on left bank 0.6 mi (1.0 km) downstream from bridge on State Highway 38 in Kitzmiller, 1.5 mi (2.4 km) downstream from Wolfden Run, and at mile 68.9 (110.9 km).

DRAINAGE AREA.--225 mi² (583 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,572.26 ft (479.225 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 15, 1954, at site 0.3 mi (0.5 km) upstream at datum 7.58 ft (2.310 m) higher. Oct. 15, 1954, to Nov. 20, 1955, nonrecording gage at bridge 0.5 mi (0.8 km) upstream at datum 21.51 ft (6.556 m) higher.

REMARKS.--Water-discharge records good except those for winter periods, which are fair. Regulation at low flow by Stony River Reservoir, 30 mi (48 km) above station (see station 01595200). Gage-height telemeter at station.

AVERAGE DISCHARGE.--29 years, 446 ft³/s (12.63 m³/s), 26.92 in/yr (684 mm/yr), adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,400 ft³/s (946 m³/s) Oct. 15, 1954, gage height, 13.73 ft (4.185 m), from floodmarks, present site and datum; minimum, 4.6 ft³/s (0.13 m³/s) Oct. 3-7, 1953, gage height, 1.45 ft (0.442 m), site and datum then in use.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,400 ft³/s (96 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 8	0530	6000	170	7.61	2.320
Jan. 26	1000	3630	103	6.82	2.079
Mar. 14	2345	4420	125	7.13	2.173
Mar. 21	2145	5740	163	7.55	2.301
July 3	1615	*17900	507	10.78	3.286

Minimum discharge, 33 ft³/s (0.93 m³/s) Sept. 30, gage height, 2.35 ft (0.716 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	90	2480	287	310	140	1500	382	275	301	351	187
2	244	96	1480	250	295	135	1460	345	227	474	222	99
3	176	127	984	185	280	150	1230	310	302	8310	202	80
4	144	215	781	190	258	150	1080	403	346	5040	292	95
5	108	287	761	220	255	145	1310	1140	226	2270	236	80
6	89	657	946	235	240	145	1000	899	207	1040	742	64
7	111	1090	650	245	220	150	1200	723	194	717	1040	54
8	94	4280	537	361	200	150	989	757	269	707	733	52
9	369	2540	484	979	190	155	881	1110	276	770	439	49
10	361	1980	397	490	180	185	756	911	231	572	339	46
11	211	1720	338	430	170	225	670	755	187	902	276	61
12	162	1310	324	410	165	310	626	651	166	559	298	70
13	130	965	396	405	165	410	530	1010	155	346	256	155
14	114	808	877	395	170	1570	452	1690	168	629	213	90
15	101	641	1440	385	170	3220	397	1900	154	450	184	86
16	120	386	956	352	170	1720	355	2480	169	354	160	88
17	248	393	823	335	167	1190	322	2030	209	438	144	187
18	174	603	949	320	162	925	323	1580	115	294	122	102
19	148	409	1010	309	155	1020	476	1150	80	239	114	76
20	179	342	882	290	150	1440	690	943	75	208	101	62
21	157	311	805	275	145	2740	802	715	100	202	88	60
22	135	328	664	265	140	4220	652	604	190	164	80	54
23	124	766	572	249	140	2560	547	537	161	148	75	52
24	112	698	531	245	174	2450	486	619	133	153	67	52
25	104	560	833	690	172	2260	467	718	130	182	60	48
26	99	649	589	2600	168	2380	898	579	129	155	60	43
27	120	518	488	1450	161	2710	818	516	637	122	56	41
28	139	466	442	900	150	2690	588	455	1210	126	57	39
29	120	444	398	600	---	2550	497	407	522	110	54	36
30	104	669	351	465	---	2290	422	366	358	233	54	34
31	95	---	308	390	---	1610	---	336	---	671	326	---
TOTAL	4636	24348	23476	15202	5322	41995	22424	27021	7601	26886	7441	2242
MEAN	150	812	757	490	190	1355	747	872	253	867	240	74.7
MAX	369	4280	2480	2600	310	4220	1500	2480	1210	8310	1040	187
MIN	44	90	308	185	140	135	322	310	75	110	54	34

CAL YR 1977 TOTAL 144933 MEAN 397 MAX 4280 MIN 26 CFSM 1.76 IN 23.96
WTR YR 1978 TOTAL 208594 MEAN 571 MAX 8310 MIN 34 CFSM 2.54 IN 34.49

01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: August 1961 to current year.

INSTRUMENTATION.--Temperature recorder since August 1961.

REMARKS.--Period of missing record, December 1-31, due to recorder malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum, 32.0°C Aug. 15, 16, 18, 1965; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 26.5°C Aug. 29; minimum, 0.0°C on many days during winter period.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	17.5	14.5	9.0	8.0			---	---	.5	.5	.0	.0
2	17.0	14.0	10.0	9.0			---	---	1.0	1.0	1.0	.0
3	14.0	12.0	11.5	10.0			---	---	1.0	1.0	.5	.0
4	13.0	11.0	13.5	11.5			1.0	.5	1.0	.5	.5	.5
5	14.0	10.0	14.0	13.5			1.0	1.0	1.0	1.0	1.0	.5
6	13.5	12.0	14.0	13.0			1.5	1.0	.5	.0	1.0	.0
7	13.5	10.0	13.0	12.5			1.5	1.5	.5	.0	1.0	.5
8	12.0	11.0	15.0	13.0			2.0	1.5	.5	.0	.5	.5
9	11.5	11.0	16.0	15.0			2.0	.0	1.0	.0	.5	.5
10	12.0	10.5	16.0	12.0			.0	.0	.5	.0	.5	.0
11	13.0	10.0	12.0	11.0			.5	.0	.5	.0	.5	.0
12	12.0	10.0	11.0	9.0			.5	.0	1.0	.5	.0	.0
13	10.5	8.0	9.0	8.0			1.0	.5	1.0	.5	.0	.0
14	10.0	9.0	9.0	7.0			1.0	1.0	.5	.0	.0	.0
15	12.0	8.5	8.5	7.5			1.0	.5	1.0	.5	1.5	.0
16	11.0	9.0	8.5	7.0			.5	.0	1.0	.5	1.5	.0
17	9.5	7.5	8.5	7.0			1.0	1.0	1.0	1.0	2.0	1.5
18	10.0	6.5	7.0	4.5			1.5	1.0	1.0	1.0	2.5	1.0
19	10.0	8.5	4.5	4.0			1.5	1.5	1.0	.5	6.0	2.5
20	10.5	9.0	5.0	4.0			1.5	1.5	.5	.0	4.5	2.0
21	12.0	8.5	7.0	5.0			1.5	1.0	.5	.0	5.5	3.0
22	12.5	8.5	7.0	6.5			1.5	1.0	.5	.0	5.5	3.5
23	12.0	10.0	6.5	6.0			1.5	1.0	.0	.0	5.5	3.5
24	12.0	8.5	7.0	6.0			2.0	1.0	.0	.0	5.5	4.5
25	11.5	9.5	7.0	5.0			2.0	2.0	.5	.0	5.5	3.5
26	12.0	11.5	5.0	2.5			2.0	.5	.5	.5	---	---
27	13.5	12.0	2.5	2.0			.5	.5	.0	.0	---	---
28	15.5	13.0	3.0	2.0			.5	.0	.0	.0	---	---
29	13.0	11.0	3.0	3.0			.5	.0	---	---	7.0	5.5
30	11.0	9.0	4.0	3.0			.5	.5	---	---	6.5	4.5
31	9.5	7.0	---	---			.5	.5	---	---	6.5	5.5
MONTH	17.5	6.5	16.0	2.0			2.0	.0	1.0	.0	7.0	.0

01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.5	6.0	11.0	8.0	22.0	17.0	22.0	18.5	22.5	19.0	23.5	20.0
2	9.0	7.0	11.5	7.0	22.0	17.0	20.5	17.0	22.5	19.5	23.0	19.0
3	8.0	7.0	13.0	7.5	19.5	16.5	17.0	16.0	25.0	20.5	24.0	19.5
4	9.5	7.0	11.0	7.0	17.0	14.0	18.0	17.0	23.5	20.5	23.0	19.5
5	10.0	9.0	8.0	7.0	18.0	14.0	18.5	17.0	22.0	21.0	24.0	18.0
6	9.0	7.5	8.0	8.0	19.5	14.5	18.5	15.0	21.5	20.0	24.5	18.5
7	11.0	8.0	10.5	7.5	18.0	16.5	19.0	16.0	19.5	18.5	24.5	20.0
8	11.0	9.0	10.5	9.5	18.0	17.0	18.5	17.0	21.0	18.5	25.5	21.0
9	10.5	7.5	13.5	9.5	19.0	16.5	20.0	16.5	21.0	19.0	25.5	22.0
10	11.5	9.0	13.0	11.0	20.5	14.5	20.0	18.5	21.5	19.5	25.5	21.0
11	12.5	11.0	14.0	9.5	21.5	15.5	19.5	17.0	22.5	19.5	24.0	20.5
12	12.5	9.0	15.0	13.0	23.0	17.5	19.0	16.0	22.5	20.5	25.0	20.0
13	12.5	10.0	14.5	11.0	21.5	16.5	19.0	15.5	23.0	21.0	22.0	18.5
14	11.5	8.0	11.0	10.5	19.0	13.5	18.5	17.0	24.0	21.0	18.5	17.5
15	11.5	8.0	10.5	10.5	19.5	13.5	20.5	17.5	25.5	21.5	22.0	17.5
16	12.0	7.5	10.5	10.5	18.5	14.5	19.5	17.5	26.0	21.5	21.0	18.5
17	13.0	8.0	11.5	10.5	22.5	17.5	19.5	16.5	26.0	22.5	21.5	18.5
18	10.0	8.5	13.0	11.5	25.5	19.0	21.0	16.5	24.0	20.5	24.0	19.5
19	9.0	8.5	15.5	11.5	24.5	19.5	22.5	18.0	26.5	20.0	25.0	22.0
20	9.0	8.0	16.5	13.0	23.5	19.0	23.5	19.0	25.0	21.5	25.0	22.0
21	8.0	7.0	17.0	15.0	22.5	18.5	25.0	20.0	24.5	18.0	25.5	21.5
22	9.5	6.0	16.0	12.5	22.5	19.0	25.0	21.5	24.5	18.0	24.0	20.0
23	9.0	7.0	15.0	13.5	23.5	17.0	26.0	21.5	25.0	18.5	20.0	17.5
24	11.5	8.5	15.0	13.5	22.5	17.0	24.0	22.0	25.0	19.0	19.5	17.0
25	9.5	8.0	18.0	14.0	23.0	17.0	22.0	20.5	25.5	21.5	20.0	17.0
26	8.0	7.5	19.0	15.0	23.5	19.0	25.0	20.0	25.5	21.5	18.5	14.0
27	10.5	7.0	20.0	16.0	23.5	18.0	25.0	20.5	24.5	21.5	19.0	14.0
28	12.0	8.0	20.5	17.0	21.0	18.5	25.0	20.5	25.5	21.5	19.0	16.0
29	12.5	8.5	20.5	17.5	22.0	18.5	24.0	18.5	26.5	22.0	17.0	12.0
30	12.5	10.0	20.0	17.5	21.0	19.0	22.0	20.0	24.5	22.5	17.5	12.5
31	---	---	21.0	18.0	---	---	20.0	19.0	23.5	21.0	---	---
MONTH	13.0	6.0	21.0	7.0	25.5	13.5	26.0	15.0	26.5	18.0	25.5	12.0

01595800 NORTH BRANCH POTOMAC RIVER AT BARNUM, WV

LOCATION.--Lat 39°26'44", long 79°06'39", Garrett County, Md., Hydrologic Unit 02070002, on left bank at highway bridge at Barnum, W. Va., 0.4 mi (0.6 km) upstream from Folly Run, and 4.0 mi (6.4 km) southwest of Piedmont, W. Va.

DRAINAGE AREA.--266 mi² (689 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1966 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,151.82 ft (351.075 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for winter periods and period of no gage-height record, Jan. 20 to Feb. 21, which are fair.. Regulation at low flow by Stony River Reservoir, 39 mi (63 km) above station (see station 01595200).

AVERAGE DISCHARGE.--12 years, 525 ft³/s (14.87 m³/s), 26.80 in/yr (681 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,100 ft³/s (767 m³/s) July 3, 1978, gage height, 13.37 ft (4.075 m), from rating curve extended above 8,000 ft³/s (227 m³/s) on basis of slope-area measurement of peak flow; minimum, 10 ft³/s (0.28 m³/s) Oct. 2, 3, 1968, gage height, 1.69 ft (0.515 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,000 ft³/s (110 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 11	Unknown	7090	201	8.16	2.487
Mar. 15	Unknown	Unknown		Unknown	
Mar. 27	Unknown	6960	197	8.11	2.472
July 3	1915	*27100	767	13.37	4.075

Minimum discharge, 43 ft³/s (1.22 m³/s) Sept. 29, gage height, 2.07 ft (0.631 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	101	2770	347	360	160	1700	430	271	300	465	269
2	238	105	1740	325	340	160	1730	390	225	378	258	133
3	209	140	1100	265	320	175	1400	370	306	10900	233	95
4	150	244	875	225	300	175	1200	450	342	5600	330	89
5	116	335	807	245	290	165	1460	1300	229	2500	240	95
6	92	803	1060	260	280	165	1140	1100	206	1150	502	75
7	108	1430	700	273	260	170	1300	880	196	780	1260	65
8	102	5060	570	360	240	170	1100	840	256	760	844	58
9	382	2740	515	1100	230	180	987	1250	272	840	448	57
10	402	2010	440	600	210	205	844	1100	231	620	337	55
11	224	1730	395	480	190	260	742	900	187	980	288	60
12	167	1270	330	460	180	350	692	760	163	620	273	65
13	138	989	395	450	180	440	590	1200	146	380	292	163
14	121	799	740	440	190	1800	505	1900	156	473	233	118
15	111	672	1710	420	195	3600	450	2200	158	498	196	91
16	124	435	1060	383	190	2000	409	2800	157	330	175	99
17	278	379	880	375	185	1400	375	2100	199	431	157	157
18	188	670	1050	363	180	1100	368	1710	132	309	138	133
19	156	459	1160	346	175	1200	552	1180	85	247	125	89
20	191	383	994	340	170	1600	740	939	76	212	115	81
21	170	347	923	325	165	3000	918	713	94	203	102	68
22	146	346	754	315	160	4600	743	456	170	178	91	54
23	134	835	644	300	160	2900	623	506	171	157	87	52
24	122	802	596	285	190	2700	553	540	135	143	79	60
25	112	627	922	1300	183	2500	515	704	127	181	72	58
26	109	711	702	2800	178	2700	943	578	128	175	68	54
27	133	579	535	1700	173	3100	929	507	683	138	66	48
28	152	522	495	1050	165	3050	670	446	1390	125	65	48
29	138	474	470	700	---	2900	550	398	572	125	63	45
30	117	694	410	540	---	2710	480	345	365	172	61	44
31	106	---	374	450	---	1920	---	320	---	639	262	---
TOTAL	4987	26691	26116	17822	6039	47555	25208	29312	7828	30544	7925	2578
MEAN	161	890	842	575	216	1534	840	946	261	985	256	85.9
MAX	402	5060	2770	2800	360	4600	1730	2800	1390	10900	1260	269
MIN	51	101	330	225	160	160	368	320	76	125	61	44

CAL YR 1977 TOTAL 160974 MEAN 441 MAX 5060 MIN 30 CFSM 1.66 IN 22.51
WTR YR 1978 TOTAL 232605 MEAN 637 MAX 10900 MIN 44 CFSM 2.40 IN 32.53

01595800 NORTH BRANCH POTOMAC RIVER AT BARNUM, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	ACIDITY (MG/L AS H)
OCT										
13...	0945	133	360	4.3	5.0	8.0	--	--	--	--
NOV										
08...	1415	4300	--	--	14.0	15.5	--	--	--	--
22...	1030	324	360	3.2	5.0	7.5	--	--	--	--
JAN										
13...	1045	537	220	3.9	-2.0	1.0	--	--	--	--
FEB										
21...	1300	160	500	3.7	.5	1.0	--	--	--	--
MAR										
29...	1315	2670	160	4.0	14.0	7.0	10	51	51	.0
AUG										
10...	1440	347	265	4.3	25.0	23.0	--	--	--	--
SEP										
20...	1420	75	550	4.5	25.0	24.5	5	240	240	--

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT									
13...	--	--	--	--	--	--	--	--	--
NOV									
08...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
JAN									
13...	--	--	--	--	--	--	--	--	--
FEB									
21...	--	--	--	--	--	--	--	--	--
MAR									
29...	14	3.8	2.0	1.0	0	0	55	3.0	.0
AUG									
10...	--	--	--	--	--	--	--	--	--
SEP									
20...	76	12	3.8	2.0	1	1	240	3.5	.1

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)
OCT									
13...	--	--	--	--	--	--	--	--	--
NOV									
08...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
JAN									
13...	--	--	--	--	--	--	--	--	--
FEB									
21...	--	--	--	--	--	--	--	--	--
MAR									
29...	4.1	87	83	.92	.03	3800	50	330	330
AUG									
10...	--	--	--	--	--	--	--	--	--
SEP									
20...	7.0	384	347	.47	.00	360	160	1600	1600

01596500 SAVAGE RIVER NEAR BARTON, MD

LOCATION.--Lat 39°34'05", long 79°06'10", Garrett County, Hydrologic Unit 02070002, on right bank 0.9 mi (1.4 km) upstream from Bear Pen Run, 1.5 mi (2.4 km) downstream from Popular Lick Run, 5.4 mi (8.7 km) northwest of Barton, and 10 mi (16 km) upstream from mouth.

DRAINAGE AREA.--49.1 mi² (127.2 km²).

PERIOD OF RECORD.--September 1948 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1603.88 ft (488.863 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter periods, which are fair to poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--30 years, 74.1 ft³/s (2.099 m³/s), 20.49 in/yr (520 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,510 ft³/s (213 m³/s) Oct. 15, 1954, gage height, 8.45 ft (2.576 m), from rating curve extended above 1,600 ft³/s (45.3 m³/s) on basis of slope-area measurement of peak flow; minimum, 0.40 ft³/s (0.011 m³/s) Sept. 3, 4, 1966, gage height, 0.96 ft (0.293 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 800 ft³/s (22 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 1	0345	862	24.4	3.42	1.042
Mar. 14	Unknown	*Unknown		a7.76	2.365
Mar. 21	2200	994	28.2	3.58	1.091
May 16	1345	879	24.9	3.44	1.049

a Ice jam.

Minimum discharge, 4.5 ft³/s (0.13 m³/s) Oct. 1, gage height, 1.19 ft (0.363 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	7.8	744	50	80	18	396	38	39	15	29	80
2	9.4	9.8	548	46	70	19	486	34	34	15	22	48
3	8.4	17	279	42	62	19	348	31	43	198	19	37
4	7.4	40	173	40	55	19	308	34	42	204	20	32
5	5.8	57	130	39	52	19	482	123	36	117	16	28
6	5.5	127	106	37	48	18	354	127	31	78	74	25
7	5.7	265	76	33	45	17	345	107	32	56	138	22
8	6.6	384	86	42	42	17	291	102	38	43	123	20
9	39	187	67	190	39	18	200	157	34	36	80	16
10	30	173	40	100	36	22	140	157	28	388	94	14
11	19	181	39	85	34	28	110	126	26	236	78	13
12	14	124	38	70	32	38	90	102	23	120	135	15
13	12	87	44	65	30	55	73	194	23	80	206	32
14	10	67	74	60	29	255	61	511	20	61	115	14
15	9.0	55	304	55	27	520	52	424	17	47	78	24
16	16	47	234	50	26	318	46	729	16	56	57	20
17	20	49	166	46	25	200	41	637	15	86	43	17
18	15	55	222	42	24	136	42	481	14	54	34	15
19	14	49	260	38	23	172	73	409	14	41	28	13
20	13	45	214	45	22	292	82	272	13	33	24	12
21	11	41	158	50	21	553	90	177	19	28	21	11
22	9.2	39	116	34	21	766	90	120	30	24	20	12
23	8.3	45	89	30	20	542	84	96	19	22	18	12
24	7.3	51	79	34	21	491	80	98	14	22	16	11
25	7.0	53	188	100	21	383	70	90	12	25	15	10
26	7.0	57	170	350	20	332	64	76	12	21	13	8.8
27	13	52	140	250	19	355	57	67	27	18	12	8.2
28	14	48	110	170	18	514	49	62	40	23	20	8.2
29	11	43	90	130	---	631	43	56	24	16	14	7.0
30	9.1	52	70	105	---	506	41	49	19	17	15	7.0
31	8.2	---	60	90	---	349	---	46	---	39	180	---
TOTAL	370.0	2507.6	5114	2518	962	7622	4688	5732	754	2219	1757	592.2
MEAN	11.9	83.6	165	81.2	34.4	246	156	185	25.1	71.6	56.7	19.7
MAX	39	384	744	350	80	766	486	729	43	388	206	80
MIN	5.1	7.8	38	30	18	17	41	31	12	15	12	7.0
CFSM	.24	1.70	3.36	1.65	.70	5.01	3.18	3.77	.51	1.46	1.16	.40
IN.	.28	1.90	3.87	1.91	.73	5.77	3.55	4.34	.57	1.68	1.33	.45

CAL YR 1977 TOTAL 24522.2 MEAN 67.2 MAX 772 MIN 1.8 CFSM 1.37 IN 18.58
WTR YR 1978 TOTAL 34835.8 MEAN 95.4 MAX 766 MIN 5.1 CFSM 1.94 IN 26.39

01597000 CRABTREE CREEK NEAR SWANTON, MD

LOCATION.--Lat 39°30'00", long 79°09'35", Garrett County, Hydrologic Unit 02070002, on left bank 0.5 mi (0.8 km) upstream from mouth, 1.0 mi (1.6 km) downstream from Springlick Run, and 5.0 mi (8.0 km) northeast of Swanton.

DRAINAGE AREA.--16.7 mi² (43.3 km²).

PERIOD OF RECORD.--September 1948 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,529.06 ft (466.058 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Small diversion above station by Baltimore and Ohio Railroad. Several observations of water temperature were made during the year.

AVERAGE DISCHRAGE.--30 years, 28.6 ft³/s (0.810 m³/s), 23.56 in/yr (591 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,260 ft³/s (92.3 m³/s) July 12, 1949, gage height, 5.01 ft (1.527 m), from rating curve extended above 210 ft³/s (5.95 m³/s) on basis of slope-area and contracted-opening measurements of peak flow; minimum, 0.1 ft³/s (0.003 m³/s) Dec. 3, 1953, gage height, 0.56 ft (0.171 m); minimum daily, 0.8 ft³/s (0.023 m³/s) Nov. 6, 1953.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 330 ft³/s (9.3 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Mar. 21	2315	370	10.5	2.50	0.762	July 3	1630	*608	17.2	2.95	0.899

Minimum discharge, 1.6 ft³/s (0.045 m³/s) Oct. 1, gage height 0.73 ft (0.223 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	2.5	168	19	26	7.6	139	23	19	16	10	8.1
2	6.4	3.3	154	17	23	8.1	148	20	17	15	7.8	5.4
3	3.3	4.5	90	16	20	8.1	108	19	19	265	6.8	5.6
4	2.6	6.9	65	15	18	7.8	89	24	16	210	11	6.1
5	2.2	18	58	14	18	7.7	110	64	14	108	8.9	4.4
6	2.4	42	59	13	17	7.6	98	77	13	67	35	3.9
7	2.4	78	49	13	16	7.2	113	68	14	45	66	3.6
8	3.5	151	40	17	15	7.2	103	66	14	44	49	3.4
9	15	76	35	40	15	7.5	77	74	13	39	34	3.2
10	10	52	29	31	15	8.7	59	69	12	38	26	3.1
11	6.6	41	25	28	14	11	49	63	10	32	20	3.1
12	5.0	33	22	25	13	14	40	56	9.7	25	17	3.5
13	4.0	28	22	22	12	19	33	67	9.4	21	14	6.6
14	3.5	23	40	20	12	96	28	93	8.4	23	12	4.0
15	3.2	20	108	18	11	187	25	131	7.5	18	10	7.4
16	5.1	18	84	17	9.8	116	22	186	7.1	16	8.7	4.7
17	4.7	20	63	16	9.8	75	20	179	7.1	15	7.6	4.2
18	3.7	23	66	15	9.3	56	21	143	6.5	12	6.8	3.7
19	3.5	22	74	14	9.0	64	28	120	6.3	11	6.3	3.3
20	3.4	20	70	17	8.8	97	40	89	6.7	9.4	5.5	3.1
21	3.1	19	57	18	8.6	176	49	67	11	8.6	5.0	3.0
22	2.9	20	45	12	8.4	254	50	51	16	7.8	4.7	2.9
23	2.7	29	37	11	8.2	204	46	42	9.4	7.1	4.4	2.9
24	2.6	37	34	13	8.5	187	41	43	7.8	7.6	4.1	2.7
25	2.5	39	57	55	8.5	147	36	40	6.8	8.0	4.0	2.7
26	2.8	38	57	147	7.6	111	36	36	9.7	6.7	3.9	2.5
27	3.7	32	49	87	7.4	108	33	34	30	6.1	3.7	2.4
28	3.4	28	38	59	7.6	150	30	31	35	6.5	3.6	2.4
29	2.9	26	31	45	---	201	27	27	27	5.3	3.5	2.2
30	2.7	30	26	35	---	177	26	24	21	9.8	3.6	2.2
31	2.6	---	22	30	---	129	---	22	---	16	25	---
TOTAL	124.4	980.2	1774	899	356.5	2656.5	1724	2048	403.4	1118.9	427.9	116.3
MEAN	4.01	32.7	57.2	29.0	12.7	85.7	57.5	66.1	13.4	36.1	13.8	3.88
MAX	15	151	168	147	26	254	148	186	35	265	66	8.1
MIN	2.0	2.5	22	11	7.4	7.2	20	19	6.3	5.3	3.5	2.2
CFSM	.24	1.96	3.43	1.74	.76	5.13	3.44	3.96	.80	2.16	.83	.23
IN.	.28	2.18	3.95	2.00	.79	5.92	3.84	4.56	.90	2.49	.95	.26

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CAL YR 1977  TOTAL   9067.6   MEAN 24.8   MAX 205   MIN 1.2   CFSM 1.49   IN 20.20
WTR YR 1978  TOTAL  12629.1   MEAN 34.6   MAX 265   MIN 2.0   CFSM 2.07   IN 28.13
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01597500 SAVAGE RIVER, BELOW SAVAGE RIVER DAM, NEAR BLOOMINGTON, MD

LOCATION.--Lat 39°30'05", long 79°07'25", Garrett County, Hydrologic Unit 02070002, on left bank 0.7 mi (1.1 km) downstream from Savage River Dam, 1.1 mi (1.8 km) downstream from Crabtree Creek, 3.2 mi (5.1 km) northwest of Bloomington, and 3.7 mi (6.0 km) upstream from mouth.

DRAINAGE AREA.--106 mi^2 (275 km^2).

PERIOD OF RECORD.--October 1948 to current year.

REVISED RECORDS.--WSP 1432: 1955.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,276.40 ft (389.047 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Diversions above station by Baltimore and Ohio Railroad and by cities of Frostburg and Westernport for municipal supply. Flow regulated by Savage River Reservoir beginning December 1950, capacity 20,000 acre-ft (24.7 hm^3). Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--30 years, 165 ft^3/s (4.673 m^3/s), 21.14 in/yr (537 mm/yr), adjusted for storage since December 1950.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,530 ft^3/s (185 m^3/s) Oct. 16, 1954, gage height, 7.70 ft (2.347 m); minimum, 0.35 ft^3/s (0.010 m^3/s) Oct. 27, 1966, gage height, 0.57 ft (0.174 m); minimum daily, 0.6 ft^3/s (0.017 m^3/s) July 27-31, Aug. 5, 6, 9, 10, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,020 ft^3/s (57.2 m^3/s) Mar. 23, gage height, 5.02 ft (1.530 m); minimum, 1.3 ft^3/s (0.037 m^3/s) Oct. 12, gage height, 0.66 ft (0.201 m); minimum daily, 24 ft^3/s (0.68 m^3/s) Aug. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	93	338	86	139	40	695	71	99	47	57	86
2	66	94	769	86	85	40	701	56	86	45	41	106
3	65	94	919	301	85	40	484	56	101	419	36	106
4	64	94	886	188	85	40	274	56	99	645	39	106
5	64	95	617	84	85	40	374	167	86	351	37	106
6	64	95	328	84	85	40	514	336	75	222	70	106
7	64	338	92	84	85	40	392	292	76	156	229	106
8	65	338	309	84	85	40	276	231	87	123	210	106
9	65	502	308	85	85	40	276	391	81	111	140	106
10	64	496	88	172	85	40	206	404	66	346	134	105
11	64	490	88	323	85	40	110	320	60	342	128	79
12	58	316	78	216	84	40	109	251	55	195	124	62
13	66	94	88	85	84	41	109	277	55	137	237	91
14	66	326	309	86	84	75	76	790	45	115	161	105
15	66	233	447	86	78	465	53	718	35	94	112	77
16	66	92	450	177	54	1380	53	1170	35	82	84	63
17	66	92	449	160	40	1190	45	1170	35	125	66	63
18	66	92	446	85	40	429	38	865	33	91	50	63
19	66	92	561	85	40	177	37	672	32	70	43	63
20	66	92	453	85	40	167	37	489	29	57	37	63
21	66	92	449	85	40	475	37	358	38	50	28	63
22	66	92	226	85	40	1140	37	261	109	43	25	63
23	66	325	304	84	40	1640	37	210	77	39	24	61
24	65	256	314	78	40	1010	37	205	51	36	60	61
25	65	90	308	76	40	842	37	196	40	40	94	61
26	66	90	288	398	40	828	48	167	37	37	382	58
27	80	90	178	792	40	519	80	153	76	33	313	55
28	95	90	302	498	40	261	97	140	98	38	38	84
29	95	90	254	233	---	273	97	128	81	28	41	103
30	95	91	85	284	---	560	97	122	61	27	45	102
31	94	---	86	228	---	846	---	120	---	58	54	---
TOTAL	2150	5464	10817	5483	1853	12798	5463	10842	1938	4202	3139	2479
MEAN	69.4	182	349	177	66.2	413	182	350	64.6	136	101	82.6
MAX	95	502	919	792	139	1640	701	1170	109	645	382	106
MIN	58	90	78	76	40	40	37	56	29	27	24	55
(≠)	8840	6760	4730	3980	4010	11860	19660	20070	20050	20070	18530	15070

CAL YR 1977 TOTAL 51451 MEAN 141 MAX 1780 MIN 15 CFSM 1.33 IN 18.05
WTR YR 1978 TOTAL 66628 MEAN 183 MAX 1640 MIN 24 CFSM 1.73 IN 23.38

≠ Monthend contents, in acre-feet, in Savage River Reservoir (contents on Sept. 30, 1977, 11,960 acre-feet). Records furnished by Corps of Engineers.

01598500 NORTH BRANCH POTOMAC RIVER AT LUKE, MD

LOCATION.--Lat 39°28'45", long 79°03'55", Mineral County, W. Va., Hydrologic Unit 02070002, on right bank 0.2 mi (0.3 km) downstream from Savage River, 0.5 mi (0.8 km) northwest of Luke, and at mile 53.3 (85.8 km).

DRAINAGE AREA.--404 mi² (1,046 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1899 to July 1906 (published as "at Piedmont, W. Va."), October 1949 to current year.

REVISED RECORDS.--WSP 192: 1899-1904. WSP 1432: 1905-6, drainage area at former site.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 944.22 ft (287.798 m) National Geodetic Vertical Datum of 1929. June 27, 1899, to July 15, 1906, nonrecording gage at bridge 1.1 mi (1.8 km) downstream at datum about 35 ft (11 m) lower.

REMARKS.--Water-discharge records good except those for winter periods, which are fair to poor. Flow regulated since 1913 by Stony River Reservoir, 45 mi (72 km) above station (see station 01595200), and since December 1950, by Savage River Reservoir, 5 mi (8 km) above station (see station 01597500). Some regulation at low flow by West Virginia Pulp and Paper Company at site used 1899-1906.

AVERAGE DISCHARGE.--35 years (water years 1900-05, 1950-78), 704 ft³/s (19.94 m³/s), 23.66 in/yr (601 mm/yr), adjusted for storage since October 1949.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,400 ft³/s (1,120 m³/s) Oct. 15, 1954, gage height, 17.15 ft (5.227 m); minimum daily, 6 ft³/s (0.17 m³/s) Sept. 4, 1904.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 28,200 ft³/s (799 m³/s) July 3, gage height, 14.87 ft (4.532 m); minimum, 93 ft³/s (2.63 m³/s) Aug. 25, gage height, 1.22 ft (0.372 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	119	195	3120	480	630	240	2790	561	494	404	721	438
2	277	204	2990	449	532	235	2840	498	406	446	390	280
3	297	239	2410	614	492	240	2220	457	440	10600	350	227
4	218	341	2110	501	455	250	1690	478	592	7890	488	222
5	190	411	1730	368	425	240	2080	1600	421	3640	407	230
6	161	970	1700	385	400	235	1930	1590	353	1620	577	204
7	174	1600	978	393	380	235	1990	1310	335	935	1680	189
8	178	5630	1050	456	350	235	1610	1220	405	861	1480	180
9	430	3640	1060	1240	320	240	1470	1850	440	1120	892	177
10	517	2880	585	810	300	250	1240	1670	380	1080	653	174
11	304	2540	505	957	285	290	992	1370	308	1550	565	150
12	234	1840	450	810	265	400	924	1150	269	1030	479	138
13	210	1180	575	651	265	570	805	1420	251	623	664	264
14	188	1220	1110	636	295	1760	670	3290	231	692	527	262
15	176	1050	2480	574	300	4740	570	3280	233	770	406	201
16	184	603	1760	540	280	3950	521	4530	212	515	325	182
17	347	521	1580	580	265	3040	475	4250	276	687	278	230
18	259	825	1720	520	260	1710	456	3310	220	513	236	234
19	223	608	2010	470	250	1520	666	2410	141	393	198	169
20	255	521	1680	400	245	2120	836	1870	126	329	176	149
21	237	477	1600	390	235	3510	1060	1440	147	310	149	137
22	212	479	1170	380	230	6460	873	1010	299	276	130	126
23	199	1170	1060	370	230	5480	737	937	305	239	120	120
24	186	1210	1080	350	255	4620	660	965	216	220	117	127
25	175	786	1370	900	290	4040	609	1120	190	272	184	125
26	176	864	1200	3300	270	4080	995	935	183	260	579	118
27	211	731	850	2600	260	4190	1120	826	776	211	484	110
28	253	664	880	1700	250	4060	843	729	1500	193	109	135
29	237	614	869	1140	---	3840	722	651	792	185	113	157
30	216	813	562	952	---	3710	631	601	498	200	113	156
31	202	---	516	794	---	3320	---	572	---	648	357	---
TOTAL	7245	34826	42760	24710	9014	69810	35025	47900	11439	38712	13947	5611
MEAN	234	1161	1379	797	322	2252	1168	1545	381	1249	450	187
MAX	517	5630	3120	3300	630	6460	2840	4530	1500	10600	1680	438
MIN	119	195	450	350	230	235	456	457	126	185	109	110

CAL YR 1977 TOTAL 230995 MEAN 633 MAX 5630 MIN 92 CFSM 1.57 IN 21.27
WTR YR 1978 TOTAL 340999 MEAN 934 MAX 10600 MIN 109 CFSM 2.31 IN 31.40

01598500 NORTH BRANCH POTOMAC RIVER AT LUKE, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: December 1961 to December 1962, July to September 1963, December 1963 to September 1973, October 1974 to current year.

INSTRUMENTATION.--Temperature recorder during all periods.

REMARKS.--Period of missing record, May through September, due to recorder malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 33.0°C July 3, 1966; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum unknown; minimum, 0.0°C on many days during winter periods.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	18.0	15.0	16.5	10.5	8.5	9.5	7.0	3.5	5.0	1.5	.5	1.0
2	17.5	15.0	16.5	11.5	10.5	11.0	7.0	5.0	6.0	1.0	.0	.5
3	15.0	13.0	13.5	13.0	11.5	12.5	5.0	4.0	4.5	1.5	.0	.5
4	14.0	12.0	12.5	14.5	13.0	14.0	5.5	4.5	5.0	1.5	.5	1.0
5	15.0	10.0	12.5	14.5	14.0	14.5	4.5	3.5	4.0	1.5	.0	1.0
6	14.5	12.0	13.0	14.5	13.5	14.0	4.0	2.0	3.5	2.0	.5	1.0
7	14.5	10.5	12.0	13.5	13.0	13.0	2.0	.0	.5	2.5	.5	1.5
8	12.0	11.5	11.5	15.0	12.5	14.0	.0	.0	.0	4.0	1.0	2.5
9	12.0	11.0	11.5	16.0	15.0	15.5	1.5	.0	.5	3.0	.5	1.0
10	12.0	10.0	11.0	15.5	12.0	14.5	.0	.0	.0	1.5	.0	.5
11	12.5	9.5	11.0	12.0	9.0	10.0	.0	.0	.0	1.0	.0	.5
12	12.0	10.0	11.0	9.0	7.5	8.5	.0	.0	.0	.5	.0	.5
13	11.0	8.0	9.5	7.5	6.5	6.5	.5	.0	.0	.5	.0	.5
14	9.5	8.5	9.0	6.5	5.5	6.0	2.5	.0	1.0	1.0	.0	.5
15	12.5	7.5	9.5	7.5	6.0	7.0	6.0	3.0	5.0	1.0	.0	.5
16	10.0	7.5	9.5	9.0	7.0	8.0	4.5	3.0	4.0	1.0	.0	.5
17	7.5	5.5	6.5	9.5	7.5	9.0	5.0	3.0	4.0	1.0	.0	.5
18	8.5	5.0	6.5	7.5	5.0	6.5	5.5	4.5	5.0	1.5	.5	1.0
19	9.0	7.0	8.0	6.0	4.5	5.5	5.5	5.0	5.0	1.0	.5	1.0
20	9.0	7.5	8.0	6.5	4.5	5.5	5.0	3.5	4.0	1.5	.5	1.0
21	10.5	6.5	8.5	8.0	6.0	7.0	4.5	3.5	4.0	1.5	.0	1.0
22	11.5	7.0	9.5	8.0	6.5	7.5	3.0	1.5	2.0	1.0	.0	.5
23	10.5	9.0	10.0	6.5	5.5	6.0	2.5	.5	1.5	1.5	.0	.5
24	11.0	7.0	9.0	7.0	6.0	6.5	5.0	1.5	3.0	1.0	.0	.5
25	10.5	8.0	9.5	6.5	5.0	5.5	5.0	2.5	4.5	1.5	.0	.5
26	11.5	10.0	10.5	5.0	1.5	3.5	2.0	.0	.5	2.5	.0	1.0
27	13.0	11.5	12.0	1.5	.0	.5	.0	.0	.0	1.5	.0	.5
28	15.5	12.5	13.5	2.0	.0	1.0	.0	.0	.0	.5	.0	.5
29	14.0	11.5	12.5	2.5	2.0	2.5	.0	.0	.0	1.0	.0	.5
30	12.5	9.5	10.5	3.0	2.5	3.0	.5	.0	.5	1.0	.5	.5
31	10.5	7.5	9.0	---	---	---	2.0	.0	1.0	1.0	.0	.5
MONTH	18.0	5.0	11.0	16.0	.0	8.5	7.0	.0	2.5	4.0	.0	1.0

01598500 NORTH BRANCH POTOMAC RIVER AT LUKE, MD--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	.5	.0	.5	4.5	.0	1.5	13.5	5.5	8.5	13.0	9.0	11.0
2	1.0	.0	.5	6.5	.0	2.5	12.0	8.0	9.5	15.5	8.5	11.5
3	1.5	.0	.5	6.0	.0	3.5	10.5	6.0	7.5	14.0	8.5	11.5
4	1.5	.0	.5	6.5	.0	3.0	10.0	6.5	8.0	12.0	8.5	10.5
5	1.0	.0	.5	4.0	.0	1.0	12.0	9.5	10.5	9.0	7.0	8.0
6	1.0	.0	.0	1.5	.0	1.0	12.5	7.0	8.5	9.5	8.5	9.0
7	.5	.0	.0	1.5	.0	1.0	12.0	7.5	9.5	12.0	8.0	10.0
8	.5	.0	.0	2.0	.5	1.0	16.0	9.0	11.0	11.0	10.5	10.5
9	.5	.0	.0	1.0	.0	.5	12.0	8.0	10.0	15.0	10.0	12.5
10	.5	.0	.0	2.0	.5	1.0	17.5	9.5	11.0	17.5	12.0	13.0
11	.5	.0	.5	1.5	.5	1.0	19.0	11.0	12.5	15.0	9.5	12.5
12	1.0	.0	.5	1.5	.0	.5	18.5	9.5	12.5	21.5	13.0	15.0
13	1.0	.0	.5	3.0	.0	1.0	15.0	9.5	12.0	15.0	12.0	14.0
14	1.5	.0	.5	2.5	.0	1.0	13.0	8.0	11.0	12.0	10.5	11.0
15	1.5	.5	1.0	3.5	1.0	2.0	12.5	8.0	10.5	16.5	10.5	11.0
16	1.5	.0	.5	4.0	2.0	3.0	12.5	7.5	10.0	11.5	10.0	11.0
17	1.5	.5	1.0	4.5	2.5	3.5	13.0	8.0	10.5	11.5	9.0	10.5
18	2.0	.5	1.0	4.5	2.0	3.0	13.0	9.5	10.5	12.5	9.5	11.0
19	2.0	.5	1.0	6.5	4.0	5.0	10.0	8.0	9.0	14.5	10.0	12.5
20	2.0	.0	1.0	6.0	3.0	4.5	8.5	7.5	8.0	15.5	11.5	13.5
21	1.0	.0	.5	6.5	3.0	5.0	8.5	7.0	7.5	16.5	13.0	14.5
22	.5	.0	.0	7.0	3.0	5.0	8.5	5.5	6.5	18.5	11.0	14.0
23	1.0	.0	.0	7.0	4.5	5.5	9.5	6.0	8.0	15.5	14.5	15.0
24	.5	.0	.0	7.0	5.5	6.5	12.0	8.5	9.5	21.0	14.5	16.5
25	1.0	.0	.5	6.0	2.5	4.0	13.0	9.0	10.5	24.0	20.0	21.5
26	2.5	.5	1.5	4.5	2.5	3.5	10.0	6.5	8.5	24.5	20.0	21.0
27	2.5	.5	1.5	9.5	4.0	5.0	9.0	6.5	8.0	---	---	---
28	2.0	.5	1.5	9.5	4.5	6.0	16.5	8.0	10.5	---	---	---
29	---	---	---	13.0	---	---	15.5	10.0	12.5	---	---	---
30	---	---	---	10.5	5.0	6.5	15.0	11.0	12.5	---	---	---
31	---	---	---	10.5	4.0	6.5	---	---	---	---	---	---
MONTH	2.5	.0	.5	13.0	.0	3.0	19.0	5.5	10.0	24.5	7.0	13.0

01599000 GEORGES CREEK AT FRANKLIN, MD

LOCATION.--Lat 39°29'38", long 79°02'42", Allegany County, Hydrologic Unit 02070002, on right bank at Franklin, and 1.2 mi (1.9 km) upstream from Westernport and mouth.

DRAINAGE AREA.--72.4 mi^2 (187.5 km^2).

PERIOD OF RECORD.--May 1905 to July 1906 (published as "at Westernport"), October 1929 to current year.

REVISED RECORDS.--WSP 726: Drainage area. WSP 1502: 1940.

GAGE.--Water-stage recorder. Datum of gage is 958.96 ft (292.291 m) Westvaco Corporation datum. May 4, 1905, to July 15, 1906, nonrecording gage at bridge 0.8 mi (1.3 km) downstream at different datum. Oct. 16, 1929, to Oct. 1, 1937, water-stage recorder at site 95 ft (29 m) downstream at present datum.

REMARKS.--Records good. Records include about 0.5 ft^3/s (0.014 m^3/s) of sewage from city of Frostburg, which obtains its water supply from Big Piney Run (Monongahela River basin) and Savage River. A negligible discharge is diverted above station by Frostburg Water Co. for municipal supplies of Eckhart and Welch Hill. An undetermined amount of water is diverted from the upper third of basin into the Wills Creek basin by the Hoffman drainage tunnel (see station 01601500). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--49 years (water years 1930-78), 80.4 ft^3/s (2.277 m^3/s), 15.08 in/yr (383 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,500 ft^3/s (241 m^3/s) Mar. 17, 1936, gage height, 9.6 ft (2.93 m), site then in use, from rating curve extended above 2,000 ft^3/s (56.6 m^3/s) on basis of slope-area measurement of peak flow; minimum, 1.6 ft^3/s (0.045 m^3/s) Sept. 29 to Oct. 13, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 29, 1924, reached a stage of about 10 ft (3.0 m), from floodmarks, at site 95 ft (29 m) downstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,500 ft^3/s (42.5 m^3/s) May 16, gage height, 6.83 ft (2.082 m); minimum, 5.3 ft^3/s (0.15 m^3/s) Oct. 1, gage height, 3.05 ft (0.930 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	7.1	440	70	88	31	440	53	78	22	33	72
2	13	12	321	64	85	29	416	51	76	26	22	40
3	8.6	14	208	54	77	30	386	50	108	376	21	32
4	7.1	34	157	47	67	30	334	60	85	219	63	30
5	6.3	50	147	44	64	29	432	188	70	116	194	25
6	7.0	119	140	42	59	28	340	138	59	73	331	22
7	6.7	252	107	41	58	27	366	118	67	55	249	20
8	12	331	88	58	57	26	288	141	70	47	153	19
9	39	144	83	124	54	26	230	243	59	43	102	18
10	17	167	54	90	53	29	196	190	49	377	126	18
11	13	154	47	80	49	41	170	159	43	176	95	17
12	9.8	103	44	70	47	58	145	138	39	106	87	18
13	8.5	77	61	60	44	103	122	381	39	75	93	30
14	7.8	62	102	58	45	404	107	648	35	66	70	28
15	7.1	53	207	53	42	665	97	565	32	55	58	32
16	13	46	154	49	39	432	67	1120	30	48	50	36
17	13	47	135	44	39	291	78	890	29	53	41	27
18	10	50	231	43	38	211	78	665	27	42	36	21
19	9.1	37	236	43	37	375	139	585	26	36	33	18
20	8.5	32	196	39	34	461	126	420	25	30	29	17
21	7.8	29	169	42	34	642	111	340	29	29	26	15
22	7.1	31	136	39	33	798	99	272	39	27	24	15
23	7.1	55	118	34	32	696	89	230	27	25	23	14
24	6.5	55	115	38	33	630	87	235	23	24	21	14
25	6.5	49	180	90	33	539	76	196	22	33	21	14
26	9.1	51	124	350	33	621	73	154	23	29	20	13
27	16	41	111	232	31	678	69	134	39	24	20	12
28	13	42	90	160	30	760	62	122	87	26	35	12
29	10	42	84	130	---	744	56	109	35	19	25	12
30	9.1	57	82	110	---	610	53	99	26	20	23	11
31	8.5	---	76	98	---	512	---	90	---	48	210	---
TOTAL	324.0	2243.1	4443	2496	1335	10556	5352	8784	1396	2345	2334	672
MEAN	10.5	74.8	143	80.5	47.7	341	178	283	46.5	75.6	75.3	22.4
MAX	39	331	440	350	88	798	440	1120	108	377	331	72
MIN	6.3	7.1	44	34	30	26	53	50	22	19	20	11
CFSM	.15	1.03	1.98	1.11	.66	4.71	2.46	3.91	.64	1.04	1.04	.31
IN.	.17	1.15	2.28	1.28	.69	5.42	2.75	4.51	.72	1.20	1.20	.35

CAL YR 1977 TOTAL 26329.7 MEAN 72.1 MAX 863 MIN 3.0 CFSM 1.00 IN 13.53
WTR YR 1978 TOTAL 42280.1 MEAN 116 MAX 1120 MIN 6.3 CFSM 1.60 IN 21.72

01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD

LOCATION.--Lat 39°33'59", long 78°50'25", Mineral County, W. Va., Hydrologic Unit 02070002, on right bank at downstream side of Western Maryland Railway bridge at Pinto, 2.8 mi (4.5 km) downstream from Mill Run, and at mile 32.6 (52.5 km).

DRAINAGE AREA.--596 mi² (1,544 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year.

REVISED RECORDS.--WSP 1332: 1943.

GAGE.--Water-stage recorder. Datum of gage is 648.23 ft (197.581 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 10, 1938, nonrecording gage at highway bridge 250 ft (76 m) downstream at same datum.

REMARKS.--Water-discharge records good except those for winter periods, which are fair. Some regulation at low flow by Stony River Reservoir, 66 mi (106 km) above station (see station 01595200), and since December 1950, by Savage River Reservoir, 25 mi (40 km) above station (see station 01597500).

AVERAGE DISCHARGE.--40 years, 880 ft³/s (24.92 m³/s), 20.05 in/yr (509 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,000 ft³/s (1,050 m³/s) Oct. 16, 1954, gage height, 23.23 ft (7.081 m); minimum, 31 ft³/s (0.88 m³/s) Dec. 18, 19, 1943, gage height, 1.37 ft (0.418 m), result of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 29, 1924, reached a stage of about 24 ft (7.3 m), discharge, about 55,000 ft³/s (1,560 m³/s). Flood of Mar. 17, 1936, reached a stage of about 23.5 ft (7.16 m), from floodmarks, discharge, about 50,000 ft³/s (1,420 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24,700 ft³/s (700 m³/s) July 4, gage height, 19.36 ft (5.901 m); minimum, 124 ft³/s (3.51 m³/s) Sept. 29, gage height, 1.87 ft (0.570 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	134	205	3360	620	930	280	3300	715	631	438	960	600
2	152	213	3800	582	790	283	3440	613	525	393	457	378
3	376	236	2820	571	660	300	2880	565	538	8270	375	282
4	232	319	2410	716	550	308	2210	557	718	10700	492	265
5	210	419	2100	421	500	284	2540	1710	558	3810	765	261
6	179	1100	2160	460	460	282	2470	2090	452	1840	718	241
7	165	1560	1330	453	440	280	2520	1740	414	1190	2160	224
8	196	6110	1150	484	410	280	2160	1560	478	964	1770	210
9	298	3960	1370	1350	380	285	1920	2290	521	1170	1110	202
10	650	2910	786	960	360	296	1710	2260	459	1380	844	197
11	357	2710	620	860	335	356	1380	1850	379	1730	734	193
12	266	2070	535	960	316	525	1260	1550	329	1260	601	162
13	220	1350	645	760	318	930	1100	1750	300	846	819	229
14	204	1240	884	740	344	2410	952	5000	282	658	661	322
15	188	1270	2690	680	354	7620	790	4420	277	971	499	279
16	193	756	2070	640	336	5610	712	6620	256	640	402	220
17	289	574	1830	680	329	4230	651	6360	281	741	334	208
18	298	845	1950	600	326	2560	609	4540	296	648	283	292
19	240	706	2410	540	302	2250	944	3420	209	468	247	217
20	235	574	2070	470	278	3380	1060	2600	174	383	222	179
21	253	511	1980	450	275	4100	1310	2030	171	337	198	167
22	224	492	1630	430	270	8270	1150	1550	250	315	171	160
23	209	1050	1220	420	267	7230	982	1280	368	272	162	145
24	198	1480	1420	400	295	5830	891	1320	262	256	151	147
25	188	946	1480	800	302	4910	802	1430	222	270	178	151
26	193	964	1690	4000	322	5320	941	1210	210	312	459	145
27	218	873	1110	3200	306	5690	1440	1040	589	262	576	136
28	259	770	990	2200	286	5840	1060	931	1450	225	261	131
29	255	714	1180	1700	---	5260	895	833	1080	215	150	163
30	231	899	767	1400	---	4640	791	748	580	196	145	169
31	213	---	666	1100	---	4290	---	719	---	540	415	---
TOTAL	7523	37826	51123	29647	11041	94129	44870	65301	13259	41700	17319	6675
MEAN	243	1261	1649	956	394	3036	1496	2106	442	1345	559	223
MAX	650	6110	3800	4000	930	8270	3440	6620	1450	10700	2160	600
MIN	134	205	535	400	267	280	609	557	171	196	145	131

CAL YR 1977 TOTAL 279930 MEAN 767 MAX 6280 MIN 97 CFSM 1.29 IN 17.47
WTR YR 1978 TOTAL 420413 MEAN 1152 MAX 10700 MIN 131 CFSM 1.93 IN 26.24

01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-74, 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
OCT 03...	1130	376	850	7.3	12.0	17.0	--	--	--
NOV 01...	1110	207	760	7.2	12.0	13.0	--	--	--
DEC 01...	1050	4330	320	6.5	6.0	5.5	--	--	--
JAN 03...	1150	468	460	6.9	-2.5	1.0	--	--	--
FEB 02...	1330	801	--	--	2.0	.0	--	--	--
MAR 30...	1230	4620	200	6.4	9.5	6.5	20	75	67
MAY 01...	1930	698	--	--	10.5	13.0	--	--	--
JUN 02...	0800	544	490	7.9	22.5	20.0	--	--	--
JUL 06...	1400	1790	285	4.5	25.5	19.0	--	--	--
AUG 01...	0800	1060	445	6.6	22.0	22.5	--	--	--
SEP 06...	0840	258	380	7.5	21.5	20.0	8	160	140

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTASSIUM, DIS-SOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)
OCT 03...	--	--	--	--	--	--	--	--	--
NOV 01...	--	--	--	--	--	--	--	--	--
DEC 01...	--	--	--	--	--	--	--	--	--
JAN 03...	--	--	--	--	--	--	--	--	--
FEB 02...	--	--	--	--	--	--	--	--	--
MAR 30...	21	5.4	4.5	1.3	9	7	63	7.2	.0
MAY 01...	--	--	--	--	--	--	--	--	--
JUN 02...	--	--	--	--	--	--	--	--	--
JUL 06...	--	--	--	--	--	--	--	--	--
AUG 01...	--	--	--	--	--	--	--	--	--
SEP 06...	47	10	6.8	1.8	17	14	150	8.2	.1

01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)
OCT									
03...	--	--	--	--	--	--	--	--	--
NOV									
01...	--	--	--	--	--	--	--	--	--
DEC									
01...	--	--	--	--	--	--	--	--	--
JAN									
03...	--	--	--	--	--	--	--	--	--
FEB									
02...	--	--	--	--	--	--	--	--	--
MAR									
30...	4.6	122	112	.90	.04	3900	20	410	410
MAY									
01...	--	--	--	--	--	--	--	--	--
JUN									
02...	--	--	--	--	--	--	--	--	--
JUL									
06...	--	--	--	--	--	--	--	--	--
AUG									
01...	--	--	--	--	--	--	--	--	--
SEP									
06...	5.5	283	239	.51	.01	990	30	670	680

01601500 WILLS CREEK NEAR CUMBERLAND, MD

LOCATION.--Lat 39°40'07", long 78°47'18", Allegany County, Hydrologic Unit 02070002, on right bank at downstream side of Western Maryland Railway bridge, 2.0 mi (3.2 km) upstream from Cumberland, and mouth.

DRAINAGE AREA.--247 mi^2 (640 km^2).

PERIOD OF RECORD.--May 1905 to July 1906 (published as "at Cumberland"), October 1929 to current year.

REVISED RECORDS.--WSP 726: Drainage area. WSP 1432: 1906, 1930(M), 1933-34(M), 1936-37, 1945(M).

GAGE.--Water-stage recorder. Datum of gage is 640.89 ft (195.343 m) National Geodetic Vertical Datum of 1929. May 6, 1905, to July 14, 1906, nonrecording gage at highway bridge 700 ft (213 m) upstream at different datum. Oct. 18, 1929, to Mar. 17, 1936, water-stage recorder, and Apr. 1, 1936, to Mar. 19, 1937, nonrecording gage at site 200 ft (61 m) upstream at present datum.

REMARKS.--Records good. Records include drainage from numerous active and abandoned coal mines. An undetermined amount of water is diverted into the basin from Georges Creek basin by Hoffman drainage tunnel. Miscellaneous measurements of discharge from the Hoffman drainage tunnel have been made in the water years 1944, 1964-65, and 1967-78 by the U.S. Geological Survey, and in the water years 1958 and 1959 by the Maryland Geological Survey. See page 259. Slight diurnal fluctuation at low flow caused by quarry upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--49 years (water years 1930-78), 321 ft^3/s (9.091 m^3/s), 17.65 in/yr (448 mm/yr).

EXTREMES FROM PERIOD OF RECORD.--Maximum discharge, 38,100 ft^3/s (1,080 m^3/s) Mar. 17, 1936, gage height, 20.2 ft (6.16 m), from floodmarks at present site, from rating curve extended above 6,500 ft^3/s (184 m^3/s) on basis of slope-area measurements at gage heights 13.45 ft (4.100 m) and 20.2 ft (6.16 m); minimum, 9 ft^3/s (0.25 m^3/s) Oct. 14, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,500 ft^3/s (99 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Mar. 15	0100	4330	123	a6.83	2.082	May 14	0415	5030	142	7.15	2.179
Mar. 22	0415	4160	118	6.68	2.036	May 16	1100	*5770	163	7.56	2.304

a Ice jam.

Minimum discharge, 33 ft^3/s (0.93 m^3/s) Oct. 7, 8, gage height, 1.68 ft (0.512 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	62	1720	261	349	110	1170	220	247	81	126	240
2	60	65	1860	226	336	107	1300	204	217	102	88	150
3	53	87	1100	170	296	105	1070	191	231	1030	78	120
4	44	144	753	136	215	100	966	199	219	787	88	110
5	38	192	605	169	206	95	1260	483	182	486	96	91
6	36	357	529	185	200	90	1210	489	167	319	263	79
7	34	769	400	165	198	90	1240	483	162	230	205	71
8	47	1830	306	204	190	91	1100	493	180	185	148	66
9	169	1020	293	931	180	93	922	645	165	162	112	60
10	179	770	150	646	175	103	753	672	143	472	98	57
11	114	802	135	502	170	143	631	640	128	762	110	54
12	83	620	148	400	165	220	531	561	120	429	106	79
13	66	450	200	370	160	446	451	1170	116	283	160	88
14	56	334	230	340	145	1820	379	4140	114	236	139	72
15	49	267	697	267	120	3630	327	2740	104	196	110	88
16	66	221	798	209	117	2120	293	4870	98	177	96	79
17	122	206	681	190	116	1360	268	3570	98	172	85	70
18	90	233	991	175	117	949	297	2360	102	134	75	62
19	81	186	1250	165	106	1260	537	1710	95	114	70	62
20	75	172	1060	156	94	1780	504	1190	91	106	64	71
21	67	167	845	155	92	2330	492	898	95	96	59	60
22	57	161	655	150	92	3650	475	697	96	91	56	57
23	51	169	513	115	104	2700	438	576	90	88	53	56
24	47	162	448	133	113	2200	414	686	81	102	51	53
25	44	155	652	239	113	1710	381	673	76	106	50	51
26	53	165	621	1360	113	2000	351	597	78	96	51	48
27	121	148	554	1330	109	2250	319	524	95	85	70	45
28	103	152	405	882	105	2700	286	452	160	81	76	44
29	86	147	335	718	---	2840	259	390	110	74	70	42
30	77	168	310	572	---	2160	240	334	90	72	62	41
31	69	---	290	432	---	1490	---	289	---	143	512	---
TOTAL	2276	10381	19534	11953	4496	40742	18864	33146	3950	7497	3427	2266
MEAN	73.4	346	630	386	161	1314	629	1069	132	242	111	75.5
MAX	179	1830	1860	1360	349	3650	1300	4870	247	1030	512	240
MIN	34	62	135	115	92	90	240	191	76	72	50	41
CFSM	.30	1.40	2.55	1.56	.65	5.32	2.55	4.33	.53	.98	.45	.31
IN.	.34	1.56	2.94	1.80	.68	6.14	2.84	4.99	.59	1.13	.52	.34

CAL YR 1977 TOTAL 110598 MEAN 303 MAX 2990 MIN 14 CFSM 1.23 IN 16.66
WTR YR 1978 TOTAL 158532 MEAN 434 MAX 4870 MIN 34 CFSM 1.76 IN 23.88

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD

LOCATION.--Lat 39°37'16", long 78"46'24", Allegany County, Hydrologic Unit 02070002, on left bank at downstream side of Wiley Ford Bridge, 2.0 mi (3.2 km) south of Cumberland, 2.1 mi (3.4 km) downstream from Wills Creek, and at mile 19.6 (31.5 km).

DRAINAGE AREA.--875 mi^2 (2,266 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1929 to current year. Gage-height records collected at various sites about 2.0 mi (3.2 km) upstream from September 1901 to December 1932 and thereafter at present site, are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 726: Drainage area. WSP 781: 1932(M).

GAGE.--Water-stage recorder. Datum of gage is 585.22 ft (178.375 m) National Geodetic Vertical Datum of 1929. Prior to June 18, 1929, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good except those for winter periods, which are fair. Regulation by Stony River Reservoir, 79 mi (127 km) above station (see station 01595200), and since December 1950, by Savage River Reservoir, 39 mi (63 km) above station (see station 01597500). Prior to July 1957, small amount of inflow from industrial wastes and sewage from city of Cumberland from water diverted from Evitts Creek, mouth of which is below station. Diversion to Chesapeake and Ohio Canal prior to 1935. Gage-height telemeter at station.

AVERAGE DISCHARGE.--49 years, 1,246 ft^3/s (35.29 m^3/s), 19.34 in/yr (491 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 88,200 ft^3/s (2,500 m^3/s) Mar. 17, 1936, gage height, 29.1 ft (8.87 m), from rating curve extended above 33,000 ft^3/s (935 m^3/s) on basis of slope-area measurement of peak flow; minimum (river only), 12 ft^3/s (0.34 m^3/s) Sept. 22, 1932, gage height, 2.38 ft (0.725 m); minimum daily (including flow in canal), 38 ft^3/s (1.08 m^3/s) Sept. 24, 1932.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 29.2 ft (8.90 m) June 1, 1889, discharge, about 89,000 ft^3/s (2,520 m^3/s). Flood of Mar. 29, 1924, reached a stage of 28.4 ft (8.66 m), discharge, about 82,000 ft^3/s (2,320 m^3/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 10,000 ft^3/s (280 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Mar. 15	1000	12600	357	11.65	3.551	May 16	2030	14000	396	12.50	3.810
Mar. 22	1000	13600	385	12.28	3.743	July 4	0515	*23500	666	17.85	5.441
May 14	1000	11100	314	10.68	3.255						

Minimum discharge, 147 ft^3/s (4.16 m^3/s) Sept. 28, 29; minimum daily, 154 ft^3/s (4.36 m^3/s) Sept. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	191	291	4660	967	1290	420	4990	1040	1010	594	1220	970
2	208	303	6250	897	1140	420	5210	925	871	564	670	642
3	408	347	4370	760	1080	470	4480	856	856	5110	512	472
4	316	488	3500	989	900	470	3590	837	1020	15100	700	416
5	260	689	3000	660	790	438	4120	2000	878	5240	1260	387
6	230	1440	2950	719	700	425	4110	2900	722	2590	1080	357
7	208	2320	1980	688	660	443	4150	2480	664	1710	2560	325
8	254	7280	1480	739	630	436	3710	2200	726	1230	2250	297
9	442	5740	1780	2280	600	426	3180	3030	771	1410	1450	277
10	917	4050	1130	1550	550	447	2760	3330	693	1910	1070	264
11	575	3900	880	1400	530	548	2250	2810	590	2850	975	256
12	413	3060	830	1650	500	813	1980	2350	515	1970	814	287
13	322	2020	907	1300	480	1410	1700	2610	472	1310	1020	318
14	291	1620	1060	1200	490	3340	1470	9240	444	1000	933	433
15	254	1740	3420	1130	500	11100	1230	7780	422	1250	713	430
16	278	1110	3190	971	500	9010	1110	11500	398	942	583	351
17	400	868	2740	1010	480	6600	1030	11300	400	963	491	304
18	472	1060	3100	901	480	4550	1010	7950	453	920	416	358
19	373	1020	3930	800	450	3450	1580	5900	362	685	364	319
20	334	839	3510	696	428	5450	1670	4360	303	576	325	270
21	360	758	3120	680	420	6310	1930	3380	299	505	288	234
22	316	719	2610	660	405	11800	1800	2610	324	475	247	215
23	284	1050	1820	620	400	11000	1560	2020	507	418	228	195
24	260	1870	2010	600	446	8750	1420	2150	400	428	206	182
25	242	1220	2170	863	460	7210	1290	2320	329	429	243	187
26	266	1160	2610	4760	480	7560	1280	2040	315	465	282	179
27	373	1140	1730	6180	440	8550	1890	1730	536	406	730	166
28	393	998	1540	4930	420	9110	1500	1520	1580	349	616	154
29	393	937	1700	2990	---	8760	1270	1350	1510	317	242	170
30	354	1070	1250	1900	---	7490	1140	1210	783	299	209	203
31	316	---	1060	1540	---	6470	---	1130	---	586	991	---
TOTAL	10703	51107	76287	47030	16649	143676	70410	106858	19153	52601	23688	9618
MEAN	345	1704	2461	1517	595	4635	2347	3447	638	1697	764	321
MAX	917	7280	6250	6180	1290	11800	5210	11500	1580	15100	2560	970
MIN	191	291	830	600	400	420	1010	837	299	299	206	154

CAL YR 1977 TOTAL 423397 MEAN 1160 MAX 9030 MIN 129 CFSM 1.33 IN 18.00
WTR YR 1978 TOTAL 627780 MEAN 1720 MAX 15100 MIN 154 CFSM 1.97 IN 26.69

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1964 to current year.
SUSPENDED SEDIMENT DISCHARGE: October 1964 to current year.

REMARKS.--Water temperatures are measured in field at time of sampling.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum daily, 33.0°C July 13, 14, 1966, July 16, 18, Aug. 19, 23, 1968, July 17, 1977; minimum daily, 0.0°C on many days during winter periods.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,600 mg/L Feb. 13, 1966, July 4, 1978; minimum daily mean, 1 mg/L Jan. 17, 1975.
SEDIMENT LOADS: Maximum daily, 66,300 tons (59,800 tonnes) July 4, 1978; minimum daily, 2.1 tons (1.9 tonnes) Aug. 27, 1971.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum daily, 26.0°C June 3, 4, 10, 11, 16, July 21, 22; minimum daily, 0.0°C on many days during winter periods.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,600 mg/L July 4; minimum daily mean, 11 mg/L Nov. 21, May 4.
SEDIMENT LOADS: Maximum daily, 66,300 tons (59,800 tonnes) July 4; minimum daily, 8.3 tons (7.5 tonnes) Sept. 29.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
OCT									
03...	1325	518	900	7.5	15.0	17.0	50	340	290
04...	1020	326	--	--	12.0	15.0	--	--	--
08...	2400	8250	190	--	--	13.0	--	--	--
25...	1335	254	--	--	14.5	13.0	--	--	--
NOV									
01...	1320	282	520	7.3	13.5	12.0	33	200	160
07...	1450	2250	--	--	16.5	15.5	--	--	--
DEC									
01...	1530	6510	230	6.7	8.0	5.0	50	85	68
13...	1345	926	--	--	3.0	.5	--	--	--
JAN									
03...	1415	705	420	6.8	-3.5	1.0	16	170	160
18...	1430	872	--	--	.0	1.5	--	--	--
FEB									
02...	1535	1120	305	6.2	.5	1.0	10	120	110
MAR									
01...	1600	495	530	7.1	-1.0	4.0	20	180	150
30...	1440	7480	170	6.8	11.5	8.0	10	62	53
MAY									
02...	0930	869	--	--	9.0	11.0	--	--	--
JUN									
02...	0930	895	440	7.6	24.0	22.0	30	160	140
JUL									
06...	1515	2360	265	6.0	25.0	21.0	5	97	87
AUG									
01...	1030	1390	635	7.5	24.5	24.0	--	--	--
SEP									
06...	1145	345	560	7.8	20.5	22.0	30	200	160

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
OCT									
03...	110	15	52	4.2	53	43	240	110	.1
04...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
NOV									
01...	61	11	24	3.0	46	38	130	48	.1
07...	--	--	--	--	--	--	--	--	--
DEC									
01...	25	5.4	7.6	2.3	20	16	62	12	.1
13...	--	--	--	--	--	--	--	--	--
JAN									
03...	52	9.8	20	2.3	15	12	140	38	.1
18...	--	--	--	--	--	--	--	--	--
FEB									
02...	35	7.5	11	1.6	6	5	99	19	.1
MAR									
01...	52	11	30	2.2	30	25	130	59	.1
30...	18	4.1	3.9	1.4	11	9	40	7.3	.0
MAY									
02...	--	--	--	--	--	--	--	--	--
JUN									
02...	47	11	14	1.9	26	21	130	26	.1
JUL									
06...	28	6.5	5.6	1.7	12	10	88	7.7	.1
AUG									
01...	--	--	--	--	--	--	--	--	--
SEP									
06...	62	12	23	2.6	50	41	160	42	.1

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT									
03...	6.3	589	564	.66	.19	1400	130	480	320
04...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
NOV									
01...	3.9	349	304	.29	.08	500	120	330	300
07...	--	--	--	--	--	--	--	--	--
DEC									
01...	5.5	134	130	.99	.31	10000	20	550	320
13...	--	--	--	--	--	--	--	--	--
JAN									
03...	6.1	301	276	.74	.05	970	30	750	750
18...	--	--	--	--	--	--	--	--	--
FEB									
02...	6.3	189	183	.83	.06	1800	10	510	610
MAR									
01...	6.0	375	306	.72	.07	800	140	600	500
30...	5.2	111	86	1.0	.03	1900	50	250	170
MAY									
02...	--	--	--	--	--	--	--	--	--
JUN									
02...	5.0	286	248	.40	.04	870	50	490	490
JUL									
06...	6.0	173	152	.50	.08	4100	1500	730	720
AUG									
01...	--	--	--	--	--	--	--	--	--
SEP									
06...	5.9	386	333	.47	.07	1000	90	540	490

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM
OCT								
08...	2400	8250	13.0	66	1490	43	56	70

DATE	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
OCT							
08...	79	83	86	88	90	95	100

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	13.0	5.0	.0	.0	3.0	6.5	12.5	20.5	---	23.0	21.0
2	17.0	14.0	---	2.0	.0	2.5	7.0	12.5	---	19.0	22.0	21.0
3	16.0	15.0	---	1.0	2.0	2.0	7.0	12.0	26.0	20.0	25.0	22.5
4	16.0	15.0	---	3.0	.0	3.0	7.0	12.0	26.0	20.0	---	22.0
5	15.0	17.5	---	2.0	1.0	2.0	8.0	11.0	23.5	19.0	22.0	23.0
6	15.0	17.0	---	2.0	.0	2.0	8.0	12.0	24.0	20.0	23.0	23.0
7	15.0	17.0	---	3.5	2.0	3.0	8.0	12.0	22.0	20.0	23.0	22.0
8	14.0	13.0	---	---	1.0	3.0	9.0	---	23.0	20.0	22.0	22.0
9	13.5	16.0	---	.0	.0	3.0	9.0	12.0	24.5	20.0	23.0	23.0
10	15.0	14.0	---	---	.0	4.0	10.0	11.0	26.0	20.0	23.0	23.0
11	15.0	8.0	---	2.0	1.0	4.0	10.0	11.0	26.0	20.0	22.5	23.0
12	14.0	---	---	2.0	2.0	4.0	11.0	---	25.0	20.0	22.0	23.0
13	13.0	7.0	---	3.0	4.0	5.0	11.0	10.0	22.0	20.0	23.0	---
14	12.0	7.0	---	3.0	2.0	4.0	10.0	11.0	23.0	20.0	---	22.0
15	13.0	7.0	---	.0	.0	4.0	10.0	12.0	26.0	22.5	23.0	23.0
16	11.0	7.0	---	.0	.0	4.0	11.0	12.0	25.0	24.0	24.0	22.0
17	10.0	7.0	---	.0	2.0	5.0	11.0	12.0	24.0	23.0	23.0	22.0
18	10.0	7.0	---	1.0	.0	6.0	11.0	12.0	23.0	22.0	23.0	23.0
19	11.0	9.0	---	.0	1.0	8.0	10.0	12.0	22.0	23.0	25.0	23.0
20	10.0	9.0	---	2.0	.0	8.0	11.0	12.5	22.0	23.0	22.0	23.0
21	11.0	9.0	---	2.0	.0	5.0	---	12.5	20.0	26.0	24.0	23.0
22	13.0	9.0	---	1.0	.0	5.0	11.0	12.5	20.0	26.0	22.0	23.0
23	12.0	9.0	---	.0	1.0	5.0	10.5	---	25.0	25.0	22.0	21.0
24	13.0	---	---	1.0	1.0	5.0	11.0	13.0	25.0	---	22.0	20.0
25	13.0	9.0	---	1.0	2.0	5.0	11.0	12.5	25.0	25.0	23.0	20.0
26	15.0	9.0	---	.0	1.0	5.0	10.0	13.0	22.0	25.0	23.0	19.0
27	14.0	9.0	---	.0	.0	5.0	11.0	12.0	22.0	25.0	23.0	19.0
28	15.0	9.0	---	.0	1.0	5.5	11.0	12.0	22.0	24.0	22.0	19.0
29	14.0	9.0	---	.0	---	5.5	10.0	---	22.0	24.0	23.0	19.0
30	13.0	---	---	.0	---	4.0	10.0	13.0	22.0	23.0	22.0	15.0
31	13.0	---	---	.0	---	4.5	---	12.5	---	23.0	28.0	---

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	28	14	20	16	200	2520	20	52	101	352	19	20
2	26	15	25	20	250	4220	22	53	40	123	24	25
3	28	31	23	22	150	1770	15	31	15	39	17	18
4	27	23	40	53	80	756	25	67	15	32	13	15
5	36	25	60	112	70	567	18	32	16	32	17	20
6	50	31	126	479	80	637	16	31	17	31	15	17
7	51	29	65	379	60	321	20	37	20	35	15	18
8	34	23	472	10300	40	160	28	56	21	34	18	21
9	38	45	310	5130	60	288	54	320	22	33	17	20
10	52	129	100	1090	45	137	24	105	21	30	17	21
11	35	54	60	632	30	71	27	102	16	22	18	27
12	25	28	50	413	30	67	28	125	14	18	17	37
13	21	18	90	491	35	86	22	77	12	14	14	75
14	21	16	120	525	40	114	22	71	12	14	180	2010
15	21	14	190	893	80	739	29	88	14	17	475	13900
16	24	18	100	300	60	517	21	55	19	26	121	3060
17	32	35	27	63	40	296	36	98	16	21	70	1130
18	38	48	17	49	45	377	41	100	12	15	50	614
19	40	40	14	39	50	531	22	48	13	16	29	263
20	42	38	12	27	50	474	21	39	15	17	17	251
21	40	39	11	23	40	337	24	44	18	20	37	651
22	31	26	17	33	35	247	18	32	17	19	375	12000
23	22	17	62	188	30	147	17	28	16	17	246	7740
24	18	13	110	555	30	163	14	23	16	19	156	3730
25	16	10	100	329	40	234	25	58	17	21	138	2690
26	16	11	92	288	60	423	42	526	16	19	169	3480
27	24	24	59	182	30	140	30	477	14	16	105	2420
28	24	25	30	81	30	125	80	1090	16	17	150	3690
29	17	18	36	91	30	138	41	316	---	---	140	3310
30	16	15	68	196	25	84	40	205	---	---	45	910
31	17	15	---	---	20	57	109	453	---	---	24	419
TOTAL	---	887	---	22999	---	16743	---	4839	---	1069	---	62602
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	22	296	19	53	20	55	50	80	70	231	60	157
2	23	324	15	37	22	52	39	59	40	72	40	69
3	21	254	12	28	20	46	238	6620	30	41	30	38
4	15	145	11	25	16	44	1600	66300	35	66	20	22
5	16	178	24	130	16	38	1030	15200	45	153	20	21
6	16	178	61	478	16	31	200	1400	40	117	20	19
7	17	190	50	335	15	27	70	323	80	553	20	18
8	26	260	25	148	18	35	50	166	60	364	20	16
9	26	223	51	417	16	33	55	209	40	157	20	15
10	20	149	83	746	19	36	90	464	35	101	20	14
11	18	109	95	721	20	32	154	1190	35	92	20	14
12	20	107	77	489	15	21	60	319	30	66	25	19
13	21	96	80	653	18	23	40	141	35	96	25	21
14	23	91	233	5780	18	22	30	81	35	88	25	29
15	21	70	150	3150	15	17	35	118	35	67	25	29
16	17	51	226	6650	20	21	30	76	35	55	20	19
17	18	50	157	4790	20	22	35	91	33	44	20	16
18	19	52	152	3260	20	24	35	87	35	39	25	24
19	21	90	131	2090	20	20	30	55	35	34	20	17
20	19	86	80	942	20	16	30	47	32	28	20	15
21	17	89	40	365	20	16	25	34	34	26	20	13
22	21	102	20	141	20	17	24	31	30	20	20	12
23	24	101	20	109	25	34	21	24	31	19	20	11
24	24	92	20	116	20	22	19	22	33	18	20	9.8
25	27	94	20	125	20	18	20	23	27	18	20	10
26	23	79	20	110	20	17	24	30	35	27	19	9.2
27	26	133	20	93	40	58	26	29	60	118	20	9.0
28	25	101	20	82	100	427	29	27	40	67	20	8.3
29	24	82	20	73	70	285	29	25	40	26	19	8.7
30	20	62	20	65	35	74	35	28	45	25	20	11
31	---	---	20	61	---	---	46	73	80	214	---	---
TOTAL	---	3934	---	32262	---	1583	---	93372	---	3042	---	694.0

TOTAL LOAD FOR YEAR: 244026.0 TONS.

01603500 EVITTS CREEK NEAR CENTERVILLE, PA

LOCATION.--Lat 39°47'23", long 78°38'48", Bedford County, Hydrologic Unit 02070002, on left bank 2.0 mi (3.2 km) upstream from Thomas W. Koon Dam, 3.0 mi (4.8 km) south of Centerville, 7.0 mi (11.3 km) upstream from Rock Gully Creek, and at mile 16.3 (26.2 km).

DRAINAGE AREA.--30.2 mi² (78.2 km²).

PERIOD OF RECORD.--September 1932 to current year. Prior to October 1952, published as "near Bedford Valley."

REVISED RECORDS.--WSP 781: 1933(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,027.59 ft (313.209 m) City of Cumberland datum.

REMARKS.--Records good except those for winter periods and period of no gage-height record, May 17 to June 26, which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--46 years, 31.9 ft³/s (0.903 m³/s), 14.34 in/yr (364 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,240 ft³/s (148 m³/s) Mar. 17, 1936, gage height, 7.13 ft (2.173 m), from rating curve extended above 400 ft³/s (11.3 m³/s) on basis of slope-area measurements at gage heights 4.64 ft (1.414 m) and 7.13 ft (2.173 m); minimum, 0.70 ft³/s (0.020 m³/s) Dec. 17, 1958, gage height, 0.79 ft (0.241 m), result of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 8 ft (2.4 m), from floodmark, date unknown.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft³/s (11 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Mar. 14	2130	539	15.3	3.00	0.914
Mar. 19	1600	476	13.5	2.91	0.887
Mar. 26	1800	412	11.7	2.82	0.860
May 14	0545	547	15.5	3.01	0.917
May 16	1400	*678	19.2	3.18	0.969

Minimum discharge, 4.6 ft³/s (0.13 m³/s) Oct. 1, 5, 6, 7, 8, gage height 1.16 ft (0.354 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	8.4	143	29	34	12	90	25	29	12	11	21
2	11	8.9	62	27	30	12	76	23	25	27	8.6	13
3	6.6	10	52	24	27	12	84	22	28	204	8.1	11
4	5.2	18	48	20	25	11	83	23	26	76	8.5	10
5	4.8	17	44	23	23	11	81	51	21	42	8.1	8.5
6	5.1	22	43	23	23	11	85	36	19	31	8.7	8.1
7	5.0	63	34	22	22	11	88	29	18	25	13	7.4
8	6.7	131	30	37	21	11	69	29	21	22	12	7.1
9	31	62	27	84	20	11	63	42	19	20	8.1	6.8
10	14	57	26	58	19	12	59	36	16	25	8.1	6.5
11	8.9	51	25	44	19	19	56	33	15	23	9.6	6.2
12	7.1	38	24	37	18	27	49	32	14	17	8.8	6.8
13	6.2	32	25	30	18	50	44	63	13	15	8.5	8.9
14	6.0	28	27	27	16	256	39	361	13	16	8.1	7.1
15	5.7	26	61	23	14	363	36	230	12	14	7.4	10
16	17	24	51	19	13	172	34	476	11	25	7.8	7.8
17	19	23	46	18	13	114	32	399	11	18	6.8	7.1
18	10	23	110	17	13	88	41	280	12	13	6.2	6.5
19	8.6	19	98	17	12	225	55	200	11	12	5.9	15
20	7.6	18	71	16	11	215	51	140	10	11	5.4	8.7
21	7.1	17	66	15	11	220	42	105	11	10	5.4	7.4
22	6.5	16	53	14	11	250	39	80	11	10	5.1	7.1
23	6.1	18	44	12	12	198	36	68	10	9.8	5.1	7.1
24	5.8	16	44	15	13	158	35	80	9.0	11	5.1	6.5
25	5.6	16	74	30	13	130	33	78	8.5	11	6.5	6.5
26	16	18	48	120	13	262	32	70	10	11	6.8	5.9
27	33	15	40	110	13	271	30	62	19	9.4	7.4	5.6
28	15	14	38	80	12	236	29	54	33	8.7	11	5.6
29	11	15	34	65	---	182	27	45	15	7.8	7.4	5.4
30	9.7	21	32	50	---	141	26	39	20	8.5	9.1	5.1
31	8.9	---	30	40	---	115	---	34	---	14	131	---
TOTAL	317.2	845.3	1550	1146	489	3806	1544	3245	490.5	759.2	368.6	245.7
MEAN	10.2	28.2	50.0	37.0	17.5	123	51.5	105	16.4	24.5	11.9	8.19
MAX	33	131	143	120	34	363	90	476	33	204	131	21
MIN	4.8	8.4	24	12	11	11	26	22	8.5	7.8	5.1	5.1
CFSM	.34	.93	1.66	1.23	.58	4.07	1.71	3.48	.54	.81	.39	.27
IN.	.39	1.04	1.91	1.41	.60	4.69	1.90	4.00	.60	.94	.45	.30

CAL YR 1977 TOTAL 10645.1 MEAN 29.2 MAX 394 MIN 3.4 CFSM .97 IN 13.11
WTR YR 1978 TOTAL 14806.5 MEAN 40.6 MAX 476 MIN 4.8 CFSM 1.34 IN 18.24

01608500 SOUTH BRANCH POTOMAC RIVER NEAR SPRINGFIELD, WV

LOCATION.--Lat 39°26'49", long 78°39'16", Hampshire County, Hydrologic Unit 02070001, on left bank at highway bridge, 2.0 mi (3.2 km) east of Springfield, and at mile 13.4 (21.6 km).

DRAINAGE AREA.--1,471 mi^2 (3,810 km^2).

PERIOD OF RECORD.--June 1894 to February 1896 (fragmentary), June 1899 to February 1902, August 1903 to July 1906, August 1928 to current year.

REVISED RECORDS.--WSP 1552: 1903-06, 1929-30(M), 1932-33(M), 1935(M), 1937-40(M), 1942-43(M), 1945(M).

GAGE.--Water-stage recorder. Datum of gage is 562.02 ft (171.304 m) National Geodetic Vertical Datum of 1929. June 1894 to February 1896, nonrecording gage at Baltimore & Ohio Railroad bridge 11.2 mi (18.0 km) upstream at different datum. June 26, 1899, to Feb. 2, 1902, nonrecording gage at bridge 10.0 mi (16.1 km) upstream at different datum. Aug. 28, 1903, to July 14, 1906, nonrecording gage at present site at different datum. Aug. 8 to Sept. 24, 1928, nonrecording gage at present site and datum.

REMARKS.--Records good except those for January and February, which are poor. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--54 years (water years 1900-01, 1904-05, 1929-78), 1,282 ft^3/s (36.31 m^3/s), 11.84 in/yr (301 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 143,000 ft^3/s (4,050 m^3/s) Mar. 18, 1936, gage height, 34.2 ft (10.42 m), from rating curve extended above 28,000 ft^3/s (793 m^3/s) on basis of measurement made about 10 mi (16 km) upstream from station, adjusted for storage and inflow and slope-area measurement at gage height 29.84 ft (9.095 m); minimum, 29 ft^3/s (0.82 m^3/s) Jan. 28, 1956, result of freezeup, July 30, 1966, result of temporary dam; minimum gage height, 0.39 ft (0.119 m) July 30, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in November 1877 reached a stage of about 34 ft (10.4 m), from floodmarks, discharge, 140,000 ft^3/s (3,960 m^3/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 10,000 ft^3/s (280 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Nov. 8	1300	18400	521	13.82	4.212	Mar. 27	0800	23000	651	15.69	4.782
Dec. 1	2330	11600	329	10.44	3.182	May 14	0815	10300	292	9.69	2.954
Jan. 27	0600	27500	779	17.21	5.246	May 16	1700	10700	303	9.95	3.033
Mar. 15	1400	*30700	869	18.10	5.517	Aug. 7	1700	11300	320	10.29	3.136

Minimum discharge, 161 ft^3/s (4.560 m^3/s) Sept. 30; minimum gage height, 1.61 ft (0.491 m) Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	184	375	7690	904	2040	898	3840	1700	1190	373	1310	763
2	178	336	8770	825	1610	817	3210	1440	1100	351	995	739
3	178	317	4890	748	1540	751	2820	1230	916	1350	703	551
4	176	313	3250	580	1330	703	2390	1100	852	5050	1580	435
5	200	471	2400	490	1100	639	2140	1350	801	2740	1820	375
6	186	1500	2000	617	950	580	2010	1560	692	1660	3710	336
7	176	3070	1800	570	740	571	1820	1370	635	1140	6580	308
8	171	12800	1600	565	730	586	1790	1230	621	873	6230	292
9	178	6800	1500	1010	740	578	1590	1400	587	864	3450	275
10	189	3600	1300	4220	740	571	1450	1580	593	1040	2100	260
11	212	2270	1100	2540	680	646	1340	1480	586	946	1500	249
12	292	1710	976	1860	680	1310	1250	1350	506	758	2800	263
13	253	1320	902	1600	680	3410	1150	1580	453	640	3240	279
14	225	1090	901	1470	675	9650	1040	8920	418	547	2900	263
15	206	929	1070	1250	600	25100	935	8100	394	577	4030	256
16	203	807	1750	1010	630	15000	851	9130	374	653	2550	253
17	212	732	1540	840	638	8690	791	9290	356	765	1850	249
18	212	678	1600	675	615	5760	753	7360	345	753	1330	256
19	209	659	2870	630	645	4590	777	5350	330	633	1030	231
20	209	597	3290	520	600	5390	814	4010	311	505	840	215
21	200	540	3150	570	590	5390	798	3050	348	430	691	203
22	203	501	2690	675	590	6270	793	2410	474	387	593	195
23	209	648	2090	645	565	5820	737	1970	428	352	523	189
24	200	2330	1700	586	530	4680	694	1830	380	329	471	184
25	195	2210	1510	653	586	4140	670	2070	332	316	424	181
26	197	1920	1400	8150	787	9380	683	1730	307	469	396	178
27	231	1710	1200	19800	1010	19900	1560	1390	313	778	375	176
28	471	1410	1100	8190	950	14600	2820	1190	402	675	380	173
29	660	1250	1080	4930	---	9350	2320	1070	555	545	385	168
30	530	1860	1080	3350	---	6400	1980	964	447	529	364	163
31	435	---	977	2600	---	4810	---	894	---	594	430	---
TOTAL	7580	54753	69176	73073	23571	176980	45816	89098	16046	27622	55580	8658
MEAN	245	1825	2231	2357	842	5709	1527	2874	535	891	1793	289
MAX	660	12800	8770	19800	2040	25100	3840	9290	1190	5050	6580	763
MIN	171	313	901	490	530	571	670	894	307	316	364	163
CFSM	.17	1.24	1.52	1.60	.57	3.88	1.04	1.95	.36	.61	1.22	.20
IN.	.19	1.38	1.75	1.85	.60	4.48	1.16	2.25	.41	.70	1.41	.22

CAL YR 1977 TOTAL 360434 MEAN 987 MAX 17800 MIN 111 CFSM .67 IN 9.11
WTR YR 1978 TOTAL 647953 MEAN 1775 MAX 25100 MIN 163 CFSM 1.21 IN 16.39

01609000 TOWN CREEK NEAR OLDTOWN, MD

LOCATION.--Lat 39°33'12", long 78°33'19", Allegany County, Hydrologic Unit 02070003, on left bank at downstream side of bridge on Pack Horse Trail (formerly Oldtown Road), 0.4 mi (0.6 km) northeast of Maryland State Highway 51, 2.0 mi (3.2 km) upstream from mouth of Sawpit Run, 3.0 mi (4.8 km) northeast of Oldtown, and 4.0 mi (6.4 km) upstream from mouth.

DRAINAGE AREA.--148 mi^2 (383 km^2).

PERIOD OF RECORD.--July 1928 to September 1935, June 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 547.97 ft (167.021 m) National Geodetic Vertical Datum of 1929. July 1928 to September 1935, nonrecording gage on upstream side of highway bridge at datum 0.08 ft (0.024 m) lower.

REMARKS.--Records good except those for winter periods, which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--18 years (water years 1929-35, 1968-78), 156 ft^3/s (4.418 m^3/s), 14.31 in/yr (363 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,700 ft^3/s (331 m^3/s) June 22, 1972, gage height, 14.13 ft (4.307 m); minimum, 0.9 ft^3/s (0.025 m^3/s) Aug. 2, 3, 7-14, 1930, gage height, 1.49 ft (0.454 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 17 or 18, 1936, reached a stage of 19.08 ft (5.816 m), from floodmarks, discharge, 27,000 ft^3/s (765 m^3/s), from rating curve extended above 9,500 ft^3/s (269 m^3/s) on basis of contracted-opening measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft^3/s (42 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 27	---	Unknown		ice jam	
Mar. 15	---	Unknown		*[a]11.42	3.481
Mar. 20	0230	1580	44.7	7.35	2.240
Mar. 26	2215	2290	64.9	8.81	2.685
May 14	0630	2420	68.5	9.03	2.752
May 16	1730	*2870	81.3	9.75	2.972

[a] Ice jam.

Minimum discharge, 11 ft^3/s (0.31 m^3/s) Oct. 7, 8, gage height, 1.98 ft (0.604 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	34	851	120	180	48	373	105	101	36	44	242
2	12	31	537	105	165	48	299	97	88	32	33	108
3	11	30	339	80	145	48	268	89	83	538	26	72
4	14	33	247	65	105	46	275	87	86	747	25	55
5	12	49	198	84	100	44	341	173	74	318	58	44
6	11	65	200	100	98	42	316	204	65	188	68	36
7	11	203	150	95	96	42	354	157	60	130	96	32
8	11	655	90	90	94	42	316	146	70	101	172	26
9	21	422	84	321	90	44	276	221	70	77	79	24
10	98	256	78	200	86	50	248	231	57	169	49	22
11	48	297	72	145	82	70	226	199	47	209	40	20
12	30	214	68	135	78	120	205	179	43	96	44	32
13	23	161	88	120	76	230	173	302	40	67	38	36
14	19	128	100	110	64	650	151	1940	38	57	48	30
15	16	108	220	99	55	2300	133	1220	37	54	35	36
16	18	93	330	89	54	1500	122	2460	34	51	29	32
17	47	81	265	85	54	854	114	1860	32	46	25	29
18	62	73	477	81	54	594	110	1360	45	41	23	28
19	43	63	844	78	48	728	424	953	41	36	20	28
20	34	56	563	72	44	1260	374	639	36	32	18	33
21	29	52	425	66	42	1140	320	468	32	29	17	29
22	25	52	344	63	42	1220	274	344	53	28	16	28
23	21	58	254	50	46	884	227	276	56	26	14	26
24	20	69	215	65	54	665	204	270	36	28	14	23
25	18	63	282	100	56	514	182	296	29	27	14	21
26	20	61	300	800	54	1320	164	211	25	32	16	20
27	81	64	225	900	50	1760	150	175	30	29	22	17
28	89	59	185	600	48	1460	135	156	45	34	20	16
29	59	59	145	350	---	909	122	140	57	24	23	15
30	47	80	140	250	---	615	113	126	39	22	23	15
31	38	---	135	200	---	465	---	115	---	32	521	---
TOTAL	1000	3689	8451	5718	2160	19712	6989	15199	1549	3336	1670	1175
MEAN	32.3	123	273	184	77.1	636	233	490	51.6	108	53.9	39.2
MAX	98	655	851	900	180	2300	424	2460	101	747	521	242
MIN	11	30	68	50	42	42	110	87	25	22	14	15
CFSM	.22	.83	1.85	1.24	.52	4.30	1.57	3.31	.35	.73	.36	.27
IN.	.25	.93	2.12	1.44	.54	4.95	1.76	3.82	.39	.84	.42	.30

CAL YR 1977 TOTAL 45592.8 MEAN 125 MAX 1240 MIN 6.4 CFSM .85 IN 11.46
WTR YR 1978 TOTAL 70648.0 MEAN 194 MAX 2460 MIN 11 CFSM 1.31 IN 17.76

01610000 POTOMAC RIVER AT PAW PAW, WV

LOCATION.--Lat 39°32'13", long 78°27'28", Allegany County, Md., Hydrologic Unit 02070003, on left bank 250 ft (76 m) upstream from bridge on Maryland State Highway 51 at Paw Paw, 3.3 mi (5.3 km) downstream from Little Cacapon River, and at mile 277 (446 km).

DRAINAGE AREA.--3,109 mi^2 (8,052 km^2).

PERIOD OF RECORD.--October 1938 to current year.

GAGE.--Water-stage recorder. Datum of gage is 487.88 ft (148.706 m) National Geodetic Vertical Datum of 1929. Prior to Mar. 25, 1939, nonrecording gage at bridge 250 ft (76 m) downstream at same datum.

REMARKS.--Records good except those for winter periods, which are fair. Low flow affected by Stony River Reservoir (see station 01595200), and since December 1950, by Savage River Reservoir (see station 01597500). Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--40 years, 3,217 ft^3/s (91.11 m^3/s), 14.05 in/yr (357 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 111,000 ft^3/s (3,140 m^3/s) Oct. 16, 1942, gage height, 38.36 ft (11.692 m); minimum, 164 ft^3/s (4.64 m^3/s) Sept. 10, 11, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 54.0 ft (16.46 m) Mar. 18, 1936, discharge, 240,000 ft^3/s (6,800 m^3/s), from rating curve extended above 85,000 ft^3/s (2,410 m^3/s) on basis of slope-area measurement of peak flow at site 5.0 mi (8.0 km) upstream at Okonoko, W. Va.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 20,000 ft^3/s (560 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Nov. 18	1900	29000	821	18.69	5.697	Mar. 27	1015	42300	1200	22.88	6.974
Dec. 2	0300	20600	583	15.75	4.801	May 14	1230	30200	855	19.06	5.809
Jan. 27	1045	39000	1100	21.90	6.675	May 16	2345	34300	971	20.42	6.224
Mar. 15	2000	*54900	1550	26.43	8.056	July 4	1530	29600	838	18.89	5.758
Mar. 22	1715	23100	654	16.69	5.087						

Minimum discharge, 441 ft^3/s (12.5 m^3/s) Sept. 29, 30, gage height, 3.49 ft (1.064 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 to SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	506	940	11900	2680	4940	1800	10900	3550	2770	1360	2700	3130
2	479	865	18600	2490	4190	1700	9790	3160	2760	1200	2640	2350
3	484	837	11700	2140	3770	1650	8890	2800	2400	2970	1810	1650
4	719	893	8420	2010	3350	1600	7660	2560	2380	23200	2200	1310
5	583	1120	6730	1880	2810	1500	7470	3520	2370	11500	4520	1120
6	573	2120	6710	1870	2650	1500	7540	5780	2020	6290	5500	990
7	513	5000	6610	1840	2320	1450	7310	5210	1800	4240	8160	888
8	479	17700	4880	1790	2150	1450	7070	4580	1830	3180	11700	808
9	658	16500	4110	2910	2060	1450	6140	5180	1850	2980	6610	742
10	1060	9190	3500	6440	1950	1450	5510	6140	1770	3880	4410	685
11	1210	7400	2940	5070	1860	1680	4910	5560	1650	4930	3430	648
12	933	5990	2560	4300	1750	2720	4410	4880	1470	3870	4270	677
13	831	4610	2450	3910	1660	5630	3970	5080	1320	2870	4900	953
14	692	3630	2520	3490	1570	17200	3530	25600	1210	2250	4360	843
15	625	3350	4000	3110	1560	47000	3100	20900	1120	2180	5400	931
16	606	2830	5870	2730	1590	37500	2780	27400	1070	2180	3910	873
17	696	2240	5300	2470	1670	21700	2570	30800	1010	1980	3120	761
18	867	2060	5550	2120	1580	14300	2430	22700	1030	2290	2390	746
19	817	2260	8450	1950	1540	11300	3440	16000	1030	1900	1920	839
20	723	1930	8940	1750	1480	15900	3770	11600	883	1550	1610	732
21	671	1730	8030	1700	1460	15400	3810	9050	858	1320	1390	657
22	667	1610	7270	1610	1430	20100	3740	7080	944	1170	1200	620
23	628	1780	5660	1530	1410	20400	3340	5880	1150	1090	1070	581
24	592	4060	4970	1470	1440	16000	3050	5420	1150	1010	956	542
25	561	4490	4840	2160	1460	13300	2850	5800	945	1120	885	525
26	569	3850	5360	11600	1700	20300	2710	5260	836	1160	866	516
27	773	3710	4550	33300	2000	39800	3410	4390	878	1590	1210	498
28	982	3220	3830	17200	1900	32000	5050	3850	1530	1520	1820	479
29	1350	2930	3570	11000	---	23500	4400	3430	2700	1340	1030	453
30	1270	3310	3410	7240	---	17200	3910	3080	1810	1180	860	464
31	1080	---	3020	5860	---	13700	---	2810	---	1290	2790	---
TOTAL	23197	122155	186250	151620	59250	422180	149460	269050	46544	100590	99637	27011
MEAN	748	4072	6008	4891	2116	13620	4982	8679	1551	3245	3214	900
MAX	1350	17700	18600	33300	4940	47000	10900	30800	2770	23200	11700	3130
MIN	479	837	2450	1470	1410	1450	2430	2560	836	1010	860	453

CAL YR 1977 TOTAL 994974 MEAN 2726 MAX 33400 MIN 279 CFSM 0.88 IN 11.91
WTR YR 1978 TOTAL 1656944 MEAN 4540 MAX 47000 MIN 453 CFSM 1.46 IN 19.83

01613000 POTOMAC RIVER AT HANCOCK, MD

LOCATION.--Lat 39°41'49", long 78°10'39", Washington County, Hydrologic Unit 02070004, on left bank 0.2 mi (0.3 km) downstream from Little Tonoloway Creek, 0.5 mi (0.8 km) downstream from bridge on U.S. Highway 522 at Hancock, 1.1 mi (1.8 km) upstream from Tonoloway Creek (formerly called Great or Big Tonoloway Creek), and at mile 239 (385 km).
DRAINAGE AREA.--4,073 mi^2 (10,549 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1932 to current year. Gage-height records collected at same site since June 1925 are contained in reports of U.S. Weather Service.
REVISED RECORDS.--WSP 781: 1933(M). WSP 801: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 383.68 ft (116.946 m) National Geodetic Vertical Datum of 1929. Oct. 1, 1932, to Jan. 5, 1935, Mar. 18, 1936, to Jan. 20, 1937, nonrecording gage, on former highway bridge just upstream at same datum.
REMARKS.--Water-discharge records good except those for winter periods, which are fair. Slight regulation at low flow from power plants upstream. Low flow affected slightly by Stony River Reservoir (see station 01595200) and since December 1950, by Savage River Reservoir (see station 01597500). Gage-height telemeter at station.
AVERAGE DISCHARGE.--46 years, 4,090 ft^3/s (115.8 m^3/s), 13.64 in/yr (346 mm/yr).
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 340,000 ft^3/s (9,630 m^3/s) Mar. 18, 1936, gage height, 47.6 ft (14.508 m), from rating curve extended above 120,000 ft^3/s (3,400 m^3/s) on basis of slope-area measurement of peak flow; minimum observed, 180 ft^3/s (5.10 m^3/s) Oct. 4, 1932, gage height, 2.01 ft (0.613 m).
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1932, about 40 ft (12.2 m) in May 1889, discharge, about 220,000 ft^3/s (6,230 m^3/s).
EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 23,000 ft^3/s (650 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Nov. 9	0215	38000	1080	17.28	5.267
Dec. 2	0830	26000	742	14.11	4.301
Jan. 27	Unknown	Unknown		*a29.13	8.879
Mar. 15	2315	*68800	1950	23.73	7.233
Mar. 23	0145	26400	748	14.15	4.313
Mar. 27	1500	53900	1530	20.85	6.355
May 14	2100	42900	1210	18.45	5.624
May 17	0600	50400	1430	20.13	6.136
July 4	2230	30600	867	15.36	4.682

a Ice jam.

Minimum discharge, 543 ft^3/s (15.4 m^3/s) Sept. 30, gage height, 2.72 ft (0.829 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	759	1410	11200	3440	6000	2200	14200	4160	3270	2190	2170	4070
2	665	1240	24500	3150	5000	2100	11800	3750	3320	1780	4350	3480
3	589	1150	16900	2830	4500	2000	10900	3370	3080	1950	3330	2670
4	574	1160	11300	2490	3900	1900	9580	3080	2780	15800	3270	1940
5	792	1340	8790	2490	3600	1800	8560	3190	2810	19500	7390	1550
6	694	1790	7820	2230	3300	1750	8940	5630	2680	9720	7190	1330
7	678	4980	8350	2270	2900	1700	8580	6240	2340	6360	10400	1180
8	626	13900	6650	2180	2600	1700	8430	5530	2190	4600	19300	1060
9	699	27800	5350	2510	2400	1650	7600	5430	2200	3600	11100	954
10	998	13600	4700	5740	2300	1750	6760	6920	2170	3690	7030	879
11	1340	9890	3970	7320	2200	2000	6090	6930	2070	5140	5080	820
12	1310	8350	3240	5700	2100	2670	5410	6150	1910	5110	4410	804
13	1050	6480	3050	5100	2000	5480	4890	5600	1710	3870	6580	915
14	959	4880	3000	4600	1900	19600	4360	24600	1530	2990	6610	1120
15	830	4060	3300	4100	1800	57900	3870	33400	1470	2470	6010	1080
16	836	3800	6210	3500	1800	56200	3440	36300	1380	2490	5630	1130
17	1130	3040	6360	3200	1900	30700	3160	46600	1330	2420	4320	1040
18	1190	2560	6380	2800	2100	20300	2960	33600	1230	2530	3480	914
19	1270	2510	9790	2500	1800	15400	3400	23200	1250	2630	2740	917
20	1180	2460	12000	2200	1700	20500	4630	17500	1220	2170	2250	1050
21	997	2160	10600	2050	1700	21000	4620	13100	1080	1790	1900	900
22	896	1990	9860	1950	1700	22300	4600	10200	1060	1540	1630	829
23	858	2010	8120	1850	1700	24800	4250	8260	1400	1360	1430	769
24	798	3050	6480	1750	1700	19800	3830	7030	1670	1260	1280	716
25	752	5960	6190	2700	1800	16400	3540	7030	1500	1190	1180	673
26	742	5090	6510	15000	2100	19000	3320	6910	1250	1270	1180	642
27	950	4920	6180	44000	2250	49300	3270	5800	1150	1330	1150	630
28	1280	4480	4880	24000	2400	45100	4940	4940	1210	2000	1790	610
29	1530	3900	4330	15000	---	32000	5330	4380	2050	2160	1860	586
30	1890	3840	4240	9000	---	22700	4650	3920	2990	2020	1210	557
31	1660	---	3950	7000	---	17500	---	3560	---	1680	1520	---
TOTAL	30522	153800	234200	194650	71150	539200	179910	356310	57300	118610	138770	35815
MEAN	985	5127	7555	6279	2541	17390	5997	11490	1910	3826	4476	1194
MAX	1890	27800	24500	44000	6000	57900	14200	46600	3320	19500	19300	4070
MIN	574	1150	3000	1750	1700	1650	2960	3080	1060	1190	1150	557
CFSM	.24	1.26	1.86	1.54	.62	4.27	1.47	2.82	.47	.94	1.10	.29
IN.	.28	1.40	2.14	1.78	.65	4.92	1.64	3.25	.52	1.08	1.27	.33

CAL YR 1977 TOTAL 1227261 MEAN 3362 MAX 44700 MIN 342 CFSM .83 IN 11.21
WTR YR 1978 TOTAL 2110237 MEAN 5781 MAX 57900 MIN 557 CFSM 1.42 IN 19.27

01613000 POTOMAC RIVER AT HANCOCK, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-72, 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT									
07...	1405	645	--	--	15.0	13.0	--	--	--
NOV									
22...	1250	1980	280	7.8	5.5	8.5	--	--	--
DEC									
13...	1050	3000	--	--	1.0	.0	--	--	--
22...	0915	10100	180	7.1	-3.0	3.5	--	--	--
JAN									
24...	1045	1800	--	--	-8.0	.0	--	--	--
FEB									
22...	1020	1500	300	7.0	-4.5	1.0	--	--	--
MAR									
23...	1030	24600	140	7.6	18.0	7.5	10	54	31
APR									
05...	1045	8410	210	7.7	--	10.0	10	76	41
JUN									
27...	1440	1140	440	9.0	30.0	27.5	--	--	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT									
07...	--	--	--	--	--	--	--	--	--
NOV									
22...	--	--	--	--	--	--	--	--	--
DEC									
13...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
JAN									
24...	--	--	--	--	--	--	--	--	--
FEB									
22...	--	--	--	--	--	--	--	--	--
MAR									
23...	16	3.3	4.0	1.4	28	23	26	5.7	.1
APR									
05...	22	5.0	5.1	1.3	42	34	36	8.4	.1
JUN									
27...	--	--	--	--	--	--	--	--	--

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT									
07...	--	--	--	--	--	--	--	--	--
NOV									
22...	--	--	--	--	--	--	--	--	--
DEC									
13...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
JAN									
24...	--	--	--	--	--	--	--	--	--
FEB									
22...	--	--	--	--	--	--	--	--	--
MAR									
23...	5.6	93	76	.95	.09	5800	20	210	80
APR									
05...	5.7	121	104	.85	.03	1000	30	110	90
JUN									
27...	--	--	--	--	--	--	--	--	--

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD

LOCATION.--Lat 39°42'57", long 77°49'28", Washington County, Hydrologic Unit 02070004, on right bank 0.7 mi (1.1 km) upstream from highway bridge in Fairview, 2.0 mi (3.2 km) upstream from Rockdale Run, 6.5 mi (10.5 km) northwest of Hagerstown, and 19.1 mi (30.7 km) upstream from mouth.
DRAINAGE AREA.--494 mi^2 (1,279 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1928 to current year.
REVISED RECORDS.--WSP 756: Drainage area. WSP 1432: 1929(M), 1930, 1931-32(M), 1935(M).
GAGE.--Water-stage recorder. Datum of gage is 391.85 ft (119.436 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 6, 1932, nonrecording gage at highway bridge 0.7 mi (1.1 km) downstream at datum 2.93 ft (0.893 m) lower. Dec. 6, 1932, to Oct. 7, 1933, nonrecording gage 150 ft (46 m) downstream from former site at datum 4.92 ft (1.500 m) lower than present datum.
REMARKS.--Water-discharge records good except those for period of no gage-height record May 23 to June 28, which are fair. Low flow partly regulated by small powerplants near Mercersburg, PA.
AVERAGE DISCHARGE.--50 years, 589 ft^3/s (16.68 m^3/s), 16.19 in/yr (411 mm/yr).
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,400 ft^3/s (918 m^3/s) June 23, 1972, gage height, 24.5 ft (7.47 m), from floodmark, from rating curve extended above 15,000 ft^3/s (425 m^3/s) on basis of contracted-opening and flow-over-road measurement of peak flow; minimum, 21 ft^3/s (0.59 m^3/s) Aug. 8, Sept. 12, 1966; minimum daily, 25 ft^3/s (0.71 m^3/s) Nov. 28, 1930.
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1928, about 16.5 ft (5.03 m), present datum, sometime in 1889, from information by local residents; discharge, about 22,000 ft^3/s (620 m^3/s).
EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,300 ft^3/s (120 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 27	0330	6780	192	9.50	2.896	Mar. 22	0345	4930	140	8.07	2.460
Mar. 15	2300	*7340	208	9.90	3.018	Mar. 27	0715	5960	169	8.90	2.713
Mar. 20	0245	5760	163	8.74	2.664	May 16	Unknown	7160	203	9.77	2.978

Minimum discharge, 88 ft^3/s (2.49 m^3/s) Oct. 6, 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	142	3070	711	900	325	1650	455	620	273	236	474
2	100	138	2190	667	830	317	1420	450	560	261	233	276
3	109	138	1420	600	760	320	1250	445	580	1230	210	211
4	98	389	1120	525	700	312	1190	440	560	1740	250	189
5	93	977	983	510	660	296	1170	530	540	933	442	177
6	90	590	1130	495	620	290	1050	470	520	643	294	166
7	90	613	904	485	610	290	1100	430	510	505	252	158
8	89	1340	706	509	600	285	971	450	520	433	1400	152
9	105	1190	635	3030	560	278	870	580	510	407	596	145
10	189	883	540	2410	540	281	820	520	470	364	377	138
11	172	1740	515	1440	530	310	793	460	450	350	324	135
12	126	1270	495	1260	510	404	771	440	450	308	530	135
13	107	899	470	1010	495	710	720	420	560	276	445	162
14	101	709	478	934	480	2220	661	3100	440	266	334	172
15	106	615	755	810	472	6050	614	6500	430	261	373	147
16	143	536	835	724	476	5340	579	7000	410	282	295	148
17	490	481	739	670	458	2910	553	6070	500	306	253	142
18	753	450	1710	615	427	2270	535	4400	450	274	222	160
19	410	398	3090	560	419	2830	612	3040	420	240	203	162
20	304	347	2130	515	410	5100	666	2140	390	223	190	196
21	270	322	2360	485	406	4380	643	1620	540	215	179	157
22	222	317	2400	475	362	4410	570	1310	800	203	175	147
23	194	441	1660	465	350	3270	520	1100	460	197	168	165
24	175	484	1350	463	355	2770	500	1050	410	190	162	147
25	161	422	1440	676	348	2320	490	940	390	188	159	138
26	157	629	1440	3930	346	3490	480	820	380	188	156	134
27	218	608	1130	5700	343	5800	475	760	520	194	153	128
28	236	501	990	3600	332	4390	470	720	700	196	167	124
29	197	453	886	2500	---	3090	465	700	304	195	157	122
30	169	534	810	1600	---	2340	460	660	261	178	151	118
31	152	---	759	1200	---	1910	---	640	---	183	386	---
TOTAL	5924	18556	39140	39574	14299	69308	23068	48660	14655	11702	9472	5025
MEAN	191	619	1263	1277	511	2236	769	1570	489	377	306	168
MAX	753	1740	3090	5700	900	6050	1650	7000	800	1740	1400	474
MIN	89	138	470	463	332	278	460	420	261	178	151	118
CFSM	.39	1.25	2.56	2.59	1.03	4.53	1.56	3.18	.99	.76	.62	.34
IN.	.45	1.40	2.95	2.98	1.08	5.22	1.74	3.66	1.10	.88	.71	.38

CAL YR 1977 TOTAL 186947 MEAN 512 MAX 4360 MIN 84 CFSM 1.04 IN 14.08
WTR YR 1978 TOTAL 299383 MEAN 820 MAX 7000 MIN 89 CFSM 1.66 IN 22.54

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: November 1966 to current year.
SUSPENDED SEDIMENT DISCHARGE: October 1966 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum daily, 30.0°C July 17, 1969; minimum daily, 0.0°C on many days during winter periods.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,050 mg/L Oct. 25, 1971; minimum daily mean, 1 mg/L on many days.
SEDIMENT LOADS: Maximum daily, 73,000 tons (66,200 tonnes) June 23, 1972; minimum daily, 0.17 ton (0.15 tonne) Nov. 24, 26, 27, 1966.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum daily, 25.0°C July 23, minimum daily, 0.0°C on many days during winter periods.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 587 mg/L Dec. 1; minimum daily mean, 3 mg/L Mar. 11.
SEDIMENT LOADS: Maximum daily, 7,840 tons (7,110 tonnes) Mar. 15; minimum daily, 1.5 ton (1.4 tonne) Oct. 5.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
OCT									
07...	1025	90	420	8.1	8.0	10.0	--	--	--
20...	1055	301	--	--	13.5	9.0	--	--	--
NOV									
22...	1005	310	360	8.1	5.5	8.5	--	--	--
DEC									
01...	--	--	--	--	--	4.0	--	--	--
FEB									
23...	1540	344	355	7.6	.5	2.0	--	--	--
APR									
05...	1345	1270	310	8.2	--	10.5	10	150	52
JUN									
28...	1650	281	395	8.4	27.5	26.5	--	--	--
AUG									
08...	1230	--	--	--	--	23.0	--	--	--
09...	1205	575	260	8.1	25.0	23.0	--	--	--
SEP									
19...	1115	165	410	8.4	27.0	23.0	10	160	0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTASSIUM, DIS-SOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)
OCT									
07...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
NOV									
22...	--	--	--	--	--	--	--	--	--
DEC									
01...	--	--	--	--	--	--	--	--	--
FEB									
23...	--	--	--	--	--	--	--	--	--
APR									
05...	37	14	4.4	1.7	120	98	19	8.1	.1
JUN									
28...	--	--	--	--	--	--	--	--	--
AUG									
08...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
SEP									
19...	56	3.9	7.6	3.1	190	160	21	12	.1

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT									
07...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
NOV									
22...	--	--	--	--	--	--	--	--	--
DEC									
01...	--	--	--	--	--	--	--	--	--
FEB									
23...	--	--	--	--	--	--	--	--	--
APR									
05...	5.3	168	149	2.7	.05	490	10	20	10
JUN									
28...	--	--	--	--	--	--	--	--	--
AUG									
08...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
SEP									
19...	3.0	238	200	2.6	.25	160	20	10	10

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM
DEC								
01...	1100	4000	4.0	669	7230	57	71	81
JAN								
09...	1300	3770	--	822	8370	51	66	78
AUG								
08...	1230	1560	23.0	--	--	76	87	94

DATE	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. FALL DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
DEC								
01...	88	--	95	98	99	99	99	100
JAN								
09...	82	--	91	93	94	94	95	100
AUG								
08...	97	99	99	99	99	99	99	100

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.0	10.0	4.0	1.0	3.0	.0	4.0	11.0	19.0	22.0	22.0	23.0
2	19.0	12.0	4.0	.0	1.0	.0	5.0	11.0	20.0	20.0	21.0	20.0
3	14.0	13.0	4.0	2.0	2.0	.0	5.0	11.0	20.0	17.0	22.0	21.0
4	13.0	16.0	4.0	2.0	.0	.0	3.0	13.0	17.0	16.0	23.0	20.0
5	12.0	15.0	3.0	3.0	.0	.0	6.0	11.0	17.0	17.0	24.0	19.0
6	13.0	15.0	3.0	.0	3.0	.0	6.0	11.0	16.0	19.0	22.0	20.0
7	11.0	14.0	.0	2.0	.0	.0	5.0	13.0	19.0	18.0	23.0	21.0
8	12.0	13.0	.0	3.0	.0	.0	7.0	14.0	19.0	20.0	22.0	22.0
9	14.0	12.0	.0	.0	.0	.0	6.0	13.0	19.0	20.0	21.0	22.0
10	13.0	13.0	.0	---	.0	.0	7.0	14.0	18.0	21.0	22.0	20.0
11	10.0	9.0	.0	2.0	.0	.0	13.0	12.0	19.0	19.0	22.0	20.0
12	11.0	8.0	.0	2.0	.0	2.0	12.0	15.0	20.0	18.0	22.0	21.0
13	10.0	6.0	.0	2.0	.0	3.0	13.0	17.0	21.0	18.0	21.0	20.0
14	10.0	4.0	1.0	2.0	.0	1.0	12.0	14.0	16.0	20.0	22.0	18.0
15	10.0	5.0	2.0	2.0	.0	.0	11.0	13.0	16.0	21.0	23.0	18.0
16	11.0	5.0	2.0	2.0	.0	.0	11.0	12.0	17.0	22.0	23.0	19.0
17	9.0	8.0	2.0	2.0	.0	1.0	11.0	12.0	19.0	21.0	24.0	19.0
18	7.0	7.0	1.0	.0	.0	.0	11.0	13.0	19.0	20.0	22.0	21.0
19	11.0	6.0	2.0	3.0	.0	3.0	11.0	---	22.0	21.0	23.0	22.0
20	9.0	6.0	3.0	2.0	.0	1.0	11.0	15.0	20.0	22.0	23.0	22.0
21	9.0	6.0	3.0	2.0	.0	3.0	10.0	17.0	22.0	23.0	20.0	20.0
22	9.0	7.0	2.0	2.0	.0	5.0	10.0	17.0	21.0	24.0	20.0	22.0
23	10.0	6.0	2.0	.0	.0	5.0	13.0	15.0	20.0	25.0	21.0	18.0
24	9.0	6.0	3.0	2.0	.0	5.0	13.0	16.0	19.0	24.0	21.0	17.0
25	9.0	5.0	4.0	2.0	.0	2.0	12.0	16.0	20.0	23.0	22.0	16.0
26	11.0	3.0	.0	.0	.0	.0	11.0	16.0	22.0	22.0	22.0	15.0
27	13.0	1.0	3.0	3.0	.0	1.0	11.0	17.0	22.0	22.0	23.0	14.0
28	14.0	2.0	2.0	.0	.0	4.0	11.0	19.0	23.0	23.0	22.0	15.0
29	12.0	2.0	2.0	.0	---	5.0	14.0	17.0	23.0	21.0	23.0	13.0
30	12.0	2.0	.0	.0	---	4.0	14.0	18.0	22.0	22.0	23.0	---
31	9.0	---	2.0	2.0	---	4.0	---	20.0	---	21.0	23.0	---

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	11	2.9	14	5.4	587	4420	14	27	25	61	6	5.3
2	12	3.2	9	3.4	127	785	14	25	20	45	4	3.4
3	11	3.2	8	3.0	44	169	12	19	14	29	4	3.5
4	7	1.9	59	104	27	82	12	17	14	26	7	5.9
5	6	1.5	168	443	26	69	15	21	12	21	12	9.6
6	7	1.7	70	112	23	70	13	17	13	22	6	4.7
7	8	1.9	73	121	14	34	14	18	7	12	4	3.1
8	13	3.1	198	728	12	23	40	55	22	36	4	3.1
9	13	3.7	113	363	10	17	561	5000	21	32	5	3.8
10	31	21	104	248	8	12	391	2790	23	34	4	3.0
11	24	11	219	992	15	21	36	140	15	21	3	2.5
12	16	5.4	85	291	13	17	55	187	22	30	8	8.7
13	9	2.6	24	58	10	13	33	90	13	17	35	78
14	6	1.6	16	31	14	18	26	66	18	23	174	1190
15	5	1.4	21	35	31	63	20	44	23	29	468	7840
16	13	5.0	14	20	22	50	16	31	23	30	194	3000
17	95	163	22	29	15	30	19	34	21	26	85	668
18	138	314	25	30	111	617	42	70	20	23	55	337
19	45	50	27	29	157	1350	30	45	16	18	169	1700
20	33	27	10	9.4	63	362	20	28	16	18	257	3670
21	27	20	9	7.8	56	363	17	22	18	20	124	1470
22	22	13	15	13	60	407	21	27	18	18	115	1370
23	13	6.8	38	45	36	161	16	20	6	5.7	89	786
24	13	6.1	34	44	34	124	15	19	6	5.8	75	561
25	8	3.5	15	17	34	132	54	159	6	5.6	121	735
26	4	1.7	25	42	29	113	329	3760	4	3.7	477	4630
27	28	16	24	39	21	64	130	2000	6	5.6	175	2740
28	32	20	18	24	15	40	80	778	5	4.5	86	1030
29	18	9.6	13	16	14	33	36	243	---	---	60	501
30	11	5.0	110	161	15	33	38	164	---	---	50	316
31	14	5.7	---	---	17	35	28	91	---	---	45	232
TOTAL	---	732.5	---	4064.0	---	9727	---	16007	---	621.9	---	32910.6

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	55	245	15	18	22	37	31	23	32	20	90	119
2	32	123	9	11	17	26	38	27	27	17	31	23
3	23	78	11	13	16	25	145	703	23	13	16	9.1
4	20	64	17	20	17	26	167	819	38	26	17	8.7
5	18	57	21	30	14	20	82	207	131	214	18	8.6
6	18	51	16	20	12	17	52	90	90	71	13	5.8
7	19	56	12	14	13	18	41	56	55	37	12	5.1
8	15	39	17	21	19	27	41	48	398	1750	13	5.3
9	13	31	22	34	16	22	34	37	115	185	17	6.7
10	10	22	24	34	12	15	37	36	60	61	10	3.7
11	10	21	22	27	10	12	37	35	45	39	9	3.3
12	9	19	25	30	16	19	29	24	123	209	10	3.6
13	10	19	144	391	16	24	26	19	95	114	12	5.2
14	9	16	384	2910	14	17	27	19	45	41	17	7.9
15	8	13	205	3350	14	16	24	17	70	70	10	4.0
16	8	13	135	2550	15	17	20	15	40	32	10	4.0
17	9	13	95	1560	17	23	32	26	25	17	16	6.1
18	9	13	77	915	22	27	29	21	21	13	12	5.2
19	9	15	62	509	19	22	14	9.1	16	8.8	15	6.6
20	11	20	46	266	17	18	11	6.6	10	5.1	17	9.0
21	12	21	45	197	35	51	10	5.8	12	5.8	16	6.8
22	11	17	37	131	115	248	9	4.9	9	4.3	19	7.5
23	10	14	31	92	120	149	10	5.3	6	2.7	25	11
24	12	16	28	79	50	55	8	4.1	9	3.9	11	4.4
25	15	20	29	74	36	38	6	3.0	7	3.0	13	4.8
26	15	19	26	58	34	35	9	4.6	7	2.9	8	2.9
27	10	13	25	51	64	110	12	6.3	7	2.9	8	2.8
28	10	13	22	43	62	144	11	5.8	8	3.6	11	3.7
29	10	13	24	45	36	30	12	6.3	7	3.0	6	2.0
30	13	16	22	39	36	25	13	6.2	7	2.9	7	2.2
31	---	---	22	38	---	---	20	9.9	53	84	---	---
TOTAL	---	1090	---	13570	---	1313	---	2299.9	---	3061.9	---	298.0

TOTAL LOAD FOR YEAR: 85695.8 TONS.

01617800 MARSH RUN AT GRIMES, MD

LOCATION.--Lat 39°30'53", long 77°46'38", Washington County, Hydrologic Unit 02070004, on right bank 220 ft (67 m) upstream from bridge on Sprecher Road, 0.1 mi (0.2 km) downstream from unnamed tributary, 0.5 mi (0.8 km) southwest of Grimes, 1.5 mi (2.4 km) upstream from mouth, and 2.2 mi (3.5 km) southwest of Fairplay.

DRAINAGE AREA.--18.9 mi² (49.0 km²).

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 354.72 ft (108.119 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for period of no gage-height record, Aug. 18 to Sept. 18, which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--15 years, 13.3 ft³/s (0.377 m³/s), 9.56 in/yr (243 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 345 ft³/s (9.77 m³/s) June 1, 1975, gage height, 3.78 ft (1.152 m); no flow Oct. 1, 1977, result of regulation caused by construction work above station.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 60 ft³/s (1.7 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Jan. 26	1700	86	2.44	2.19	0.668	Mar. 15	2245	96	2.72	2.28	0.695
Mar. 14	1645	*179	5.07	2.92	0.890	Mar. 26	1900	61	1.73	1.94	0.591

No flow Oct. 1, 1977, result of regulation caused by construction work above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	5.3	20	15	21	15	32	16	18	12	11	14
2	1.2	5.4	15	14	21	15	29	16	17	16	11	9.0
3	4.3	5.3	13	13	20	15	29	16	17	32	11	8.2
4	5.0	7.2	12	12	19	14	29	16	17	28	22	8.2
5	4.9	7.5	12	12	18	14	29	18	17	19	12	8.0
6	5.3	6.4	13	12	18	14	28	17	16	17	12	7.8
7	5.5	7.0	11	11	17	14	28	16	16	16	15	7.6
8	5.1	7.4	10	14	17	14	25	16	16	16	12	7.4
9	6.5	7.2	9.6	38	17	14	24	18	17	15	11	7.2
10	6.9	7.4	9.5	26	17	14	24	16	16	14	11	7.0
11	6.0	13	9.4	18	16	15	23	15	15	13	10	6.8
12	5.5	10	9.3	17	16	20	23	15	15	13	10	7.0
13	5.4	8.7	9.6	17	16	45	22	20	16	12	10	9.0
14	5.3	8.0	10	17	16	107	21	35	15	13	10	7.6
15	8.2	7.9	12	16	16	90	20	33	14	13	9.7	7.2
16	9.2	7.7	11	16	15	56	20	40	13	12	9.3	7.0
17	15	7.6	10	16	15	46	19	37	16	13	9.0	6.8
18	9.3	7.5	25	16	15	44	19	37	15	12	8.4	7.4
19	7.7	7.1	27	15	15	46	21	32	14	11	8.4	7.7
20	7.2	7.7	21	16	14	41	21	27	13	11	8.0	7.4
21	6.5	7.1	28	15	14	37	20	24	16	11	8.0	7.4
22	6.3	6.8	24	15	14	35	19	23	22	11	7.9	7.1
23	5.9	11	21	15	14	33	18	23	16	11	7.8	7.1
24	5.7	9.7	20	14	15	31	18	24	15	10	7.6	7.1
25	5.6	8.8	19	24	15	31	18	23	14	11	7.4	7.1
26	5.8	11	18	67	16	49	18	21	14	11	7.4	6.8
27	7.2	9.3	17	50	16	52	17	21	14	10	9.0	6.8
28	6.6	9.0	16	35	15	42	17	20	15	11	11	6.8
29	6.0	9.0	15	29	---	37	16	20	13	10	8.2	6.5
30	5.6	10	15	26	---	34	16	19	14	10	7.8	6.5
31	5.4	---	15	23	---	33	---	18	---	11	11	---
TOTAL	190.10	243.0	477.4	644	458	1067	663	692	466	425	313.9	227.5
MEAN	6.13	8.10	15.4	20.8	16.4	34.4	22.1	22.3	15.5	13.7	10.1	7.58
MAX	15	13	28	67	21	107	32	40	22	32	22	14
MIN	.00	5.3	9.3	11	14	14	16	15	13	10	7.4	6.5
CFSM	.32	.43	.82	1.10	.87	1.82	1.17	1.18	.82	.73	.53	.40
IN.	.37	.48	.94	1.27	.90	2.10	1.30	1.36	.92	.84	.62	.45

CAL YR 1977 TOTAL 4194.30 MEAN 11.5 MAX 76 MIN .00 CFSM .61 IN 8.26
WTR YR 1978 TOTAL 5866.90 MEAN 16.1 MAX 107 MIN .00 CFSM .85 IN 11.55

01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV

LOCATION.--Lat 39°26'04", long 77°48'07", Jefferson County, Hydrologic Unit 02070004, on right bank 0.1 mi (0.2 km) downstream from Rumsey Bridge at Shepherdstown, 3.3 mi (5.3 km) upstream from Antietam Creek, and at mile 184 (296 km).

DRAINAGE AREA.--5,936 mi^2 (15,374 km^2).

PERIOD OF RECORD.--August 1928 to September 1953. Annual maximums, water years 1954-64. July 1964 to current year. Gage-height record and estimated discharges October 1953 to June 1964 available in files of Maryland district office.

REVISED RECORDS.--WSP 756: Drainage area. WSP 781: 1929(M).

GAGE.--Water-stage recorder. Datum of gage is 281.00 ft (85.649 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter periods, which are fair. Some regulation at low flow by power plants above station, Stony River Reservoir (see station 01595200), and since December 1950 by Savage River Reservoir (see station 01597500). Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--39 years (water years 1929-53, 1965-78), 6,045 ft^3/s (171.2 m^3/s), 13.83 in/yr (351 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 335,000 ft^3/s (9,490 m^3/s) Mar. 19, 1936, gage height, 42.1 ft (12.83 m), from floodmarks, from rating curve extended above 200,000 ft^3/s (5,660 m^3/s) on basis of slope-area measurement of peak flow; minimum, 170 ft^3/s (4.81 m^3/s) Aug. 1, 1966; minimum daily, 185 ft^3/s (5.24 m^3/s) July 31, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in June 1889 and May 1924 reached stages of 39.2 ft (11.95 m) and 29.8 ft (9.08 m) respectively, from floodmarks, discharges, about 290,000 ft^3/s (8,210 m^3/s) and 168,000 ft^3/s (4,760 m^3/s) respectively, from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 23,000 ft^3/s (650 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Nov. 9	1300	41200	1170	12.73	3.880	Mar. 23	1130	35500	1010	11.57	3.527
Dec. 2	1930	34000	963	11.26	3.432	Mar. 27	2200	71800	2030	18.12	5.523
Jan. 28	Unknown	Unknown		Unknown		May 17	1530	71800	2030	18.12	5.523
Mar. 16	0830	*89400	2530	20.81	6.343	July 5	0930	33900	960	11.24	3.426
Mar. 21	0130	34700	983	11.41	3.478	Aug. 8	1500	29700	841	10.35	3.155

Minimum daily, 780 ft^3/s (22.1 m^3/s) Sept. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1220	2120	10800	6050	10000	3700	21600	5840	5050	3450	3550	3570
2	1140	1860	30400	5280	8000	3500	17700	5190	4660	2780	5000	5460
3	998	1690	28300	4630	7000	3300	15700	4770	4660	3090	5560	4310
4	910	1720	18500	3810	6000	3100	14400	4420	4290	12500	6520	3370
5	800	2530	13600	3450	5200	2900	13000	4330	4010	29400	9250	2670
6	954	3260	11600	3680	4600	2700	12300	5020	3960	15900	9180	2220
7	1050	4090	11100	3590	4400	2600	12200	7670	3700	9690	12900	1990
8	955	12600	10400	3780	4200	2600	11900	7400	3460	6870	26800	1820
9	967	33900	8100	6520	4000	2500	11300	7000	3400	5900	19000	1680
10	1050	23100	6950	9390	3600	2700	10100	7790	3290	5250	11300	1460
11	1430	15800	5750	8830	3400	3060	9130	9050	3170	5540	7820	1300
12	1720	14100	4920	9270	3200	3540	8350	8330	2990	6780	6380	1250
13	1740	10700	4450	7590	3100	5520	7710	7590	2880	5810	6880	1500
14	1320	8160	4520	7050	3000	17000	7040	17800	2780	4520	8020	1450
15	1370	6450	4720	6400	2900	61400	6230	52000	2530	3980	7320	1500
16	1280	5570	6000	6110	2900	85300	5570	53700	2370	3740	7300	1450
17	1540	5040	8700	5130	2900	54000	5090	68300	2290	4100	6020	1450
18	2830	4180	9220	4300	3100	34800	4640	54900	2310	3840	4940	1350
19	2780	3660	17300	3900	3300	25700	4720	38400	2270	4020	4120	1400
20	2270	3530	20200	3550	3100	30000	5970	27900	2270	3480	3410	1460
21	1960	3310	18700	3300	2900	33900	7050	20800	2410	2830	2880	1300
22	1660	3000	18400	3150	2800	32300	7010	16100	2760	2480	2540	1200
23	1450	3060	15300	3000	2800	34300	6810	12800	2600	2250	2260	1100
24	1350	3950	11900	2900	2800	30500	6370	11000	2520	2060	2050	1000
25	1240	5740	10200	3930	2800	24700	5980	10400	2600	1940	1900	940
26	1160	7630	10200	11100	3000	23100	5390	10100	2440	1830	1770	950
27	1210	7370	9940	46000	3300	56600	4750	8990	2240	1910	1890	910
28	1680	6870	8330	60000	3500	65900	4900	7610	2070	2120	2270	850
29	2240	6000	6910	30000	---	49800	6530	6710	2240	2800	2450	780
30	2220	5610	6320	20000	---	35200	6440	6020	3110	2840	2580	870
31	2380	---	6240	12000	---	26600	---	5490	---	2990	2180	---
TOTAL	46874	216600	357970	307690	111800	762820	265880	513420	91330	166690	196040	52560
MEAN	1512	7220	11550	9925	3993	24610	8863	16560	3044	5377	6324	1752
MAX	2830	33900	30400	60000	10000	85300	21600	68300	5050	29400	26800	5460
MIN	800	1690	4450	2900	2800	2500	4640	4330	2070	1830	1770	780
CFSM	.26	1.22	1.95	1.67	.67	4.15	1.49	2.79	.51	.91	1.07	.30
IN.	.29	1.36	2.24	1.93	.70	4.78	1.67	3.22	.57	1.04	1.23	.33

CAL YR 1977 TOTAL 1817527 MEAN 4980 MAX 57800 MIN 600 CFSM .84 IN 11.39
WTR YR 1978 TOTAL 3089674 MEAN 8465 MAX 85300 MIN 780 CFSM 1.43 IN 19.36

01619000 ANTIETAM CREEK NEAR WAYNESBORO, PA

LOCATION.--Lat 39°42'59", long 77°36'28", Washington County, Md., Hydrologic Unit 02070004, on right bank 100 ft (30 m) upstream from highway bridge at Rocky Forge, 0.4 mi (0.6 km) downstream from Pennsylvania-Maryland State line, 0.7 mi (1.1 km) downstream from confluence of west and east branches, 1.9 mi (3.1 km) northeast of Leitersburg, Md., 2.5 mi (4.0 km) southwest of Waynesboro, Pa., and 36.6 mi (58.9 km) upstream from mouth.

DRAINAGE AREA.--93.5 mi² (242.2 km²).

PERIOD OF RECORD.--May 1948 to September 1951, October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 536.59 ft (163.553 m) National Geodetic Vertical Datum of 1929. May 1948 to September 1951, nonrecording gage and crest-stage gage 100 ft (30 m) downstream at present datum.

REMARKS.--Records good except those for period of no gage-height record, Mar. 14-27, which are fair. Occasional regulation from mills above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--16 years (water years 1949-51, 1966-78), 119 ft³/s (3.370 m³/s), 17.28 in/yr (439 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,430 ft³/s (154 m³/s) June 22, 1972, gage height, 12.33 ft (3.758 m), from rating curve extended above 2,700 ft³/s (76.5 m³/s); minimum daily, 11 ft³/s (0.31 m³/s) Jan. 30, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 850 ft³/s (24 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Jan. 9	0515	869	24.6	5.44	1.658
Jan. 26	0915	1360	38.5	6.48	1.975
Mar. 14	1815	1500	42.5	6.76	2.060
May 14	2000	940	26.6	5.60	1.707
May 16	0645	1060	30.0	5.87	1.789
July 3	1215	869	24.6	5.44	1.658

Minimum discharge, 30 ft³/s (0.85 m³/s) Oct. 5, gage height, 3.10 ft (0.945 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	33	235	114	185	87	219	92	127	89	75	88
2	35	34	145	110	174	84	203	91	119	109	67	58
3	33	36	125	102	157	86	192	90	120	501	65	53
4	32	87	115	94	146	85	194	91	118	254	110	52
5	31	62	118	93	139	88	191	109	111	160	75	51
6	38	60	123	93	140	89	179	96	107	125	67	50
7	35	174	100	91	135	87	180	91	105	112	86	49
8	33	197	85	128	133	82	163	95	108	119	78	48
9	55	91	80	539	127	81	152	117	106	115	70	47
10	45	106	75	230	123	84	147	98	96	101	64	45
11	37	146	71	189	119	92	145	92	92	96	63	44
12	35	91	66	160	117	112	141	88	92	90	62	45
13	33	79	66	153	115	249	132	178	116	87	62	58
14	36	72	80	154	116	750	129	700	93	85	67	49
15	48	67	107	135	109	500	130	698	88	84	61	47
16	57	60	88	122	105	350	127	926	85	82	58	46
17	91	65	83	119	101	290	121	699	105	82	57	45
18	51	59	231	118	100	260	120	540	92	80	54	49
19	44	53	257	109	98	310	131	413	86	78	54	55
20	43	51	209	107	94	310	142	333	82	76	52	50
21	39	52	274	106	94	295	123	286	111	74	52	47
22	38	55	226	98	91	330	112	248	168	74	51	47
23	36	97	183	96	89	320	105	232	95	70	50	46
24	36	80	166	100	89	310	107	225	85	68	49	45
25	35	74	194	268	89	280	109	196	81	68	48	44
26	36	97	171	985	89	370	104	169	80	68	48	43
27	50	73	156	505	87	450	100	157	96	68	58	43
28	45	69	136	333	86	346	101	149	147	90	72	42
29	37	69	128	268	---	287	94	143	99	75	52	43
30	35	76	124	227	---	248	93	137	94	65	50	41
31	34	---	119	203	---	233	---	135	---	70	70	---
TOTAL	1268	2365	4336	6149	3247	7545	4186	7714	3104	3315	1947	1470
MEAN	40.9	78.8	140	198	116	243	140	249	103	107	62.8	49.0
MAX	91	197	274	985	185	750	219	926	168	501	110	88
MIN	31	33	66	91	86	81	93	88	80	65	48	41
CFSM	.44	.84	1.50	2.12	1.24	2.60	1.50	2.66	1.10	1.14	.67	.52
IN.	.50	.94	1.73	2.45	1.29	3.00	1.67	3.07	1.23	1.32	.77	.58

CAL YR 1977 TOTAL 33138 MEAN 90.8 MAX 786 MIN 31 CFSM .97 IN 13.18
WTR YR 1978 TOTAL 46646 MEAN 128 MAX 985 MIN 31 CFSM 1.37 IN 18.56

01619500 ANTIETAM CREEK NEAR SHARPSBURG, MD

LOCATION.--Lat 39°27'01", long 77°43'52", Washington County, Hydrologic Unit 02070004, on left bank 400 ft (120 m) downstream from Burnside Bridge, 1.0 mi (1.6 km) southeast of Sharpsburg, and 4.0 mi (6.4 km) upstream from mouth.

DRAINAGE AREA.--281 mi^2 (728 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1897 to September 1905, August 1928 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 192: 1897-1905. WSP 726: Drainage area. WSP 1432: 1929-31(M), 1933, 1935(M), 1937(M), 1949(M), 1952(M).

GAGE.--Water-stage recorder. Concrete control since Mar. 29, 1934. Datum of gage is 311.05 ft (94.793 m) National Geodetic Vertical Datum of 1929. June 24, 1897, to Aug. 25, 1905, nonrecording gage a few hundred feet downstream from Middle Bridge, 1.2 mi (1.9 km) upstream at datum 12 ft (3.7 m) higher. Aug. 21, 1928, to July 13, 1933, nonrecording gage at Burnside Bridge, 0.1 mi (0.2 km) upstream at present datum.

REMARKS.--Water-discharge records good. Some diurnal fluctuation caused by powerplant above station. Since 1928 records include pumpage from the Potomac River for municipal supply of Hagerstown. This water later enters Antietam Creek above station as sewage.

AVERAGE DISCHARGE.--55 years (water years 1898-1903, 1905, 1931-78), 274 ft^3/s (7.760 m^3/s), 13.24 in/yr (336 mm/yr), adjusted for inflow since January 1930.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,600 ft^3/s (357 m^3/s) July 20, 1956, gage height, 16.73 ft (5.099 m); minimum, 9.4 ft^3/s (0.266 m^3/s) Nov. 22, 1957, result of regulation caused by construction work above station; minimum daily, 37 ft^3/s (1.05 m^3/s) Jan. 30, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft^3/s (42 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 26	Unknown	Unknown		Unknown		May 14	1630	1560	44.2	5.51	1.679
Mar. 15	0315	*2560	72.5	6.98	2.128	May 16	1830	2180	61.7	6.45	1.966
Mar. 27	0900	1500	42.5	5.42	1.652						

Minimum discharge, 96 ft^3/s (2.72 m^3/s) Oct. 5, gage height, 2.33 ft (0.710 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	107	106	514	349	600	277	745	298	418	249	238	281
2	112	105	454	338	560	266	687	289	392	296	213	185
3	105	105	354	321	500	268	642	285	380	580	207	167
4	100	166	320	300	470	261	620	285	384	828	346	161
5	98	188	310	293	450	251	612	314	364	492	235	157
6	106	148	331	288	460	257	577	314	350	413	215	154
7	115	172	300	283	435	253	558	289	336	367	280	152
8	103	412	259	299	425	248	544	281	336	343	250	150
9	124	287	240	973	410	239	509	327	356	354	227	148
10	143	232	215	780	400	241	473	314	321	327	204	144
11	118	415	209	590	380	323	462	285	304	314	199	141
12	105	283	200	500	370	399	460	273	295	295	208	146
13	101	222	206	467	365	680	435	350	345	281	193	185
14	102	195	215	468	370	1620	417	1110	318	275	193	155
15	141	182	280	426	355	1850	405	1470	286	272	195	148
16	141	170	257	388	345	1060	397	1890	277	269	186	145
17	246	164	231	381	330	863	388	1680	315	269	180	141
18	188	171	541	382	325	778	382	1300	317	258	175	158
19	140	154	771	353	320	742	400	1040	283	247	171	160
20	129	145	630	357	305	880	430	886	266	239	167	159
21	122	142	689	343	305	838	405	777	298	233	162	144
22	115	146	695	321	300	954	377	695	602	232	162	141
23	111	226	573	302	280	922	354	646	392	224	160	138
24	107	236	519	290	281	872	350	627	306	217	158	135
25	106	201	502	330	282	795	345	597	281	216	156	133
26	116	240	511	2000	290	1000	345	536	270	214	157	132
27	145	234	451	1600	285	1440	336	498	276	213	187	130
28	128	202	418	1100	276	1220	327	476	334	292	230	129
29	123	197	387	880	---	1020	314	456	294	234	167	127
30	111	206	373	720	---	896	302	436	263	211	160	127
31	106	---	361	660	---	807	---	423	---	228	224	---
TOTAL	3814	6052	12316	17082	10474	22520	13598	19447	9959	9482	6205	4573
MEAN	123	202	397	551	374	726	453	627	332	306	200	152
MAX	246	415	771	2000	600	1850	745	1890	602	828	346	281
MIN	98	105	200	283	276	239	302	273	263	211	156	127
(≠)	-14.5	-13.8	-14.4	-15.8	-16.2	-15.3	-14.2	-14.4	-15.0	-14.4	-15.4	-15.3
MEAN≠	109	188	383	535	358	711	439	613	317	292	185	137
CFSM≠	.39	.67	1.36	1.90	1.27	2.53	1.56	2.18	1.13	1.04	.66	.49
IN≠	.45	.75	1.57	2.19	1.32	2.92	1.74	2.51	1.26	1.20	.76	.55

CAL YR 1977 TOTAL 96378 MEAN 264 MAX 1990 MIN 98 MEAN≠ 253 CFSM≠ .90 IN≠ 12.22
WTR YR 1978 TOTAL 135522 MEAN 371 MAX 2000 MIN 98 MEAN≠ 356 CFSM≠ 1.27 IN≠ 17.22

≠ Pumpage in cubic feet per second, from Potomac River for municipal supply of Hagerstown.
≠ Adjusted for pumpage.

01619500 ANTIETAM CREEK NEAR SHARPSBURG, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT									
06...	1340	108	510	8.2	14.0	12.0	--	--	--
NOV									
21...	1035	140	480	8.0	10.5	9.0	--	--	--
JAN									
12...	0950	504	--	--	-4.5	.5	--	--	--
FEB									
23...	1115	285	460	7.4	-4.0	3.0	--	--	--
APR									
06...	0945	550	450	8.3	--	10.5	--	--	--
JUN									
29...	1320	271	480	7.9	27.0	21.5	5	180	18
AUG									
10...	1030	214	485	8.3	24.5	22.5	--	--	--
SEP									
19...	1345	152	520	8.2	30.0	22.5	10	250	50

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT									
06...	--	--	--	--	--	--	--	--	--
NOV									
21...	--	--	--	--	--	--	--	--	--
JAN									
12...	--	--	--	--	--	--	--	--	--
FEB									
23...	--	--	--	--	--	--	--	--	--
APR									
06...	60	7.8	7.1	2.7	200	160	27	13	.2
JUN									
29...	--	--	--	--	--	--	--	--	--
AUG									
10...	--	--	--	--	--	--	--	--	--
SEP									
19...	74	15	10	4.1	240	200	34	18	.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT									
06...	--	--	--	--	--	--	--	--	--
NOV									
21...	--	--	--	--	--	--	--	--	--
JAN									
12...	--	--	--	--	--	--	--	--	--
FEB									
23...	--	--	--	--	--	--	--	--	--
APR									
06...	5.7	248	222	3.6	.13	720	10	40	20
JUN									
29...	--	--	--	--	--	--	--	--	--
AUG									
10...	--	--	--	--	--	--	--	--	--
SEP									
19...	6.6	298	280	4.0	.34	270	30	30	10

01636500 SHENANDOAH RIVER AT MILLVILLE, WV

LOCATION.--Lat 39°16'55", long 77°47'22", Jefferson County, Hydrologic Unit 02070007, on left bank 0.4 mi (0.6 km) downstream from Cattail Run, 1.0 mi (1.6 km) upstream from Millville, 5.0 mi (8.0 km) upstream from Harpers Ferry, and at mile 5.0 (8.0 km).

DRAINAGE AREA.--3,040 mi² (7,874 km²).

PERIOD OF RECORD.--April 1895 to March 1909, August 1928 to current year.

REVISED RECORDS.--WSP 951: 1936(M). WSP 1432: Drainage area at former site, 1895-99, 1901-02, 1905, 1907-08, 1932(M), 1935(M).

GAGE.--Water-stage recorder. Datum of gage is 293.00 ft (89.306 m) National Geodetic Vertical Datum of 1929. Apr. 15, 1895, to Mar. 31, 1909, nonrecording gage at site 0.8 mi (1.3 km) downstream at datum 0.32 ft (0.098 m) higher.

REMARKS.--Records good except those for period of no gage-height record, Oct. 9 to Nov. 15, and those for January and February, which are poor. Regulation by hydroelectric plants, particularly that of Potomac Light and Power Co., 0.5 mi (0.8 km) upstream from station. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--63 years (water years 1896-1908, 1929-78), 2,667 ft³/s (75.53 m³/s), 11.91 in/yr (303 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 230,000 ft³/s (6,510 m³/s) Oct. 16, 1942, gage height, 32.4 ft (9.88 m), from floodmarks; minimum, about 59 ft³/s (1.67 m³/s) Oct. 4, 1930, gage height, 0.39 ft (0.119 m); minimum daily, 194 ft³/s (5.49 m³/s) July 24, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1870 reached practically same stage as flood of Mar. 18, 1936, 26.36 ft (8.035 m), discharge, 151,000 ft³/s (4,280 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 15,000 ft³/s (420 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 8	---	33300	943	12.50	3.810	Mar. 28	0200	29400	833	11.78	3.591
Jan. 27	1945	*48000	1360	15.08	4.596	May 15	1045	24500	694	10.78	3.286
Mar. 16	0300	42300	1200	14.13	4.307	Aug. 7	1615	17800	504	9.18	2.798

Minimum discharge, 387 ft³/s (10.96 m³/s) Oct. 5, 10, gage height, 1.20 ft (0.366 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	645	840	4010	2360	6600	2790	8420	4360	2380	1670	2620	2340
2	600	830	6370	2210	5320	2600	7150	3750	2280	1550	2270	2170
3	531	840	7670	2100	4500	2470	6170	3370	2210	1670	1910	1640
4	544	1300	6080	1900	4100	2350	5470	3100	2110	2890	1880	1450
5	460	1700	4900	1800	3700	2170	5000	3120	2020	3180	2500	1210
6	482	4500	4210	1630	3400	2110	4640	3240	1900	2640	1730	1170
7	500	12000	3760	1690	3100	1960	4310	3770	1880	2260	9210	1050
8	497	30000	3680	1770	2840	1920	3990	3460	1790	1950	9950	1060
9	500	18500	3280	3530	2900	1920	3710	3250	1740	2160	5540	978
10	510	9500	2930	5660	2800	1930	3460	3340	1680	1900	4110	960
11	500	7230	2610	7000	2700	1960	3290	3400	1650	1630	3730	909
12	520	6210	2390	5800	2600	3550	3150	3330	1530	2050	5520	900
13	540	4740	2230	4900	2470	7560	3000	3370	1610	1740	7000	1110
14	510	3750	2010	4280	2350	15700	2840	8760	1650	1570	6170	1030
15	500	3140	2060	3860	2260	30900	2710	21700	1480	1450	6040	972
16	540	2820	1920	3400	2140	36700	2580	19900	1430	1510	5790	907
17	600	2420	2010	2920	2110	21400	2450	20800	1310	1650	4650	907
18	640	2150	2530	2680	2080	13800	2420	15200	1270	1930	3760	881
19	730	1960	4000	2400	2060	10200	2420	11000	1350	1690	2860	863
20	690	1800	5380	2120	2010	8560	2470	8940	1210	1390	2390	919
21	590	1580	5920	2060	1900	7830	2530	7120	1270	1210	1920	860
22	530	1700	5720	2200	2000	7690	2520	5930	2040	1180	1790	786
23	520	1520	5070	2100	1900	7590	2370	5080	2230	1150	1590	805
24	510	2150	4390	2000	1900	7120	2230	4480	2100	1030	1560	789
25	520	2320	3810	2410	1970	6290	2160	4080	1960	1030	1350	886
26	620	2980	3440	9940	2050	6730	2140	3690	1550	1160	1310	846
27	850	2990	3130	41600	2280	19500	2210	3350	1420	1170	1280	890
28	990	2720	2850	30000	2710	28200	5110	3030	2560	2720	1300	836
29	1200	2580	2650	17000	---	20900	6520	2810	2730	2500	1270	750
30	1100	2600	2530	12000	---	14100	5170	2540	2160	1480	1170	754
31	940	---	2420	8600	---	10400	---	2450	---	1500	1750	---
TOTAL	19409	139370	115960	193920	78750	308900	112610	195720	54500	54610	105920	31628
MEAN	626	4646	3741	6255	2813	9965	3754	6314	1817	1762	3417	1054
MAX	1200	30000	7670	41600	6600	36700	8420	21700	2730	3180	9950	2340
MIN	460	830	1920	1630	1900	1920	2140	2450	1210	1030	1170	750
CFSM	.21	1.53	1.23	2.06	.93	3.28	1.24	2.08	.60	.58	1.12	.35
IN.	.24	1.71	1.42	2.37	.96	3.78	1.38	2.39	.67	.67	1.30	.39

CAL YR 1977 TOTAL 646884 MEAN 1772 MAX 30000 MIN 354 CFSM .58 IN 7.92
WTR YR 1978 TOTAL 1411297 MEAN 3867 MAX 41600 MIN 460 CFSM 1.27 IN 17.27

01637500 CATOCTIN CREEK NEAR MIDDLETOWN, MD

LOCATION.--Lat 39°25'35", long 77°33'25", Frederick County, Hydrologic Unit 02070008, on right bank 300 ft (91 m) downstream from bridge on State Highway 17, 1.3 mi (2.1 km) south of Middletown, 2.2 mi (3.5 km) downstream from Little Catoctin Creek, and 14.8 mi (23.8 km) upstream from mouth.

DRAINAGE AREA.--66.9 mi² (173.3 km²).

PERIOD OF RECORD.--August 1947 to current year.

REVISED RECORDS.--WSP 1432: 1947-48. WDR MD-DE-77-1: 1960(M), 1965(M), 1970(M), 1972(P), 1975(P).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 385 ft (117.3 m), from topographic map.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years, 75.8 ft³/s (2.147 m³/s), 15.39 in/yr (391 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,000 ft³/s (340 m³/s) Oct. 9, 1976, gage height, 14.13 ft (4.307 m), from rating curve extended above 2,600 ft³/s (73.6 m³/s) on basis of slope-area measurement of peak flow; no flow Aug. 27 to Sept. 12, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft³/s (34 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 1	0200	1350	38.2	4.75	1.448
Jan. 9	0400	1350	38.2	4.75	1.448
Jan. 25	1500	1370	38.8	4.78	1.457
Jan. 26	0530	3950	112	7.85	2.393
May 16	0430	1550	43.9	5.04	1.536

Minimum discharge, 3.6 ft³/s (0.10 m³/s) Oct. 4, 5, 6, gage height, 1.50 ft (0.457 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	16	537	91	150	30	183	43	82	24	32	48
2	4.9	16	223	84	132	30	155	41	68	52	20	16
3	5.4	17	174	65	115	30	145	40	68	347	18	11
4	4.3	104	144	60	103	28	142	43	70	193	30	9.8
5	3.6	64	148	70	94	28	140	65	58	108	24	8.8
6	4.7	47	158	67	84	26	114	56	53	81	26	8.1
7	6.3	241	110	63	78	26	117	50	51	65	58	7.5
8	5.9	233	90	116	74	26	99	49	53	57	37	7.0
9	18	116	89	736	70	26	89	96	84	56	22	6.4
10	26	199	80	215	66	54	86	64	53	49	17	5.9
11	11	277	74	176	60	152	85	54	43	45	16	5.6
12	7.2	143	73	157	56	165	91	52	41	37	64	6.6
13	6.6	110	72	149	52	315	77	147	55	33	28	16
14	6.0	90	85	154	50	628	68	649	41	32	27	9.9
15	28	77	136	120	48	594	64	737	36	33	20	8.1
16	35	68	85	101	46	402	62	1240	32	32	16	8.1
17	136	75	75	102	42	293	59	742	65	31	14	7.3
18	42	85	613	132	40	234	58	555	57	26	12	6.5
19	26	58	492	95	38	250	81	431	39	23	11	6.5
20	25	50	365	88	38	275	91	349	31	22	9.6	6.4
21	21	47	457	86	36	287	69	284	31	20	8.7	6.8
22	17	51	335	75	36	307	63	229	172	19	8.2	6.5
23	14	179	257	70	34	254	57	198	60	18	8.0	5.9
24	13	116	216	65	34	218	55	190	39	17	7.6	5.6
25	12	98	222	570	32	188	53	166	33	17	7.5	5.4
26	17	143	168	2120	32	402	52	136	30	19	7.8	5.0
27	45	101	131	487	32	488	52	118	36	18	9.3	4.8
28	44	91	116	316	31	377	48	108	45	20	28	4.8
29	27	88	107	238	---	298	46	99	30	17	15	4.6
30	21	103	108	200	---	239	45	90	28	15	11	4.4
31	18	---	101	167	---	206	---	86	---	20	18	---
TOTAL	655.3	3103	6041	7235	1703	6876	2546	7207	1584	1546	630.7	263.3
MEAN	21.1	103	195	233	60.8	222	84.9	232	52.8	49.9	20.3	8.78
MAX	136	277	613	2120	150	628	183	1240	172	347	64	48
MIN	3.6	16	72	60	31	26	45	40	28	15	7.5	4.4
CFSM	.32	1.54	2.92	3.48	.91	3.32	1.27	3.47	.79	.75	.30	.13
IN.	.36	1.73	3.36	4.02	.95	3.82	1.42	4.01	.88	.86	.35	.15

CAL YR 1977 TOTAL 28028.2 MEAN 76.8 MAX 1350 MIN 2.1 CFSM 1.15 IN 15.58
WTR YR 1978 TOTAL 39390.3 MEAN 108 MAX 2120 MIN 3.6 CFSM 1.61 IN 21.90

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD

LOCATION.--Lat 39°16'25", long 77°32'35", Frederick County, Hydrologic Unit 02070008, on left bank at downstream side of bridge on U.S. Highway 15 at Point of Rocks, 0.3 mi (0.5 km) downstream from Catoctin Creek (Virginia), 6 mi (9.7 km) upstream from Monocacy River, and at mile 159.5 (256.6 km).

DRAINAGE AREA.--9,651 mi^2 (24,996 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1895 to current year.

REVISED RECORDS.--WSP 192: 1895-1905. WSP 1432: 1899, 1901-2, 1904-5, 1912, 1914(M), 1915, 1917(M), 1918, 1919(M), 1920, 1921-23(M), 1924, 1925-28(M), 1930(M).

GAGE.--Water-stage recorder. Datum of gage is 200.63 ft (61.152 m) National Geodetic Vertical Datum of 1929. Prior to October 28, 1929, nonrecording gage at same site. Prior to Sept. 2, 1902, at datum about 0.45 ft (0.317 m) higher.

REMARKS.--Water-discharge records good. Low flow affected slightly since 1913 by Stony River Reservoir (see station 01595200) and since December 1950 by Savage River Reservoir (see station 01597500). Low flow affected extensively at times by run-of-the-river hydroelectric plants. Gage-height telemeter at station.

AVERAGE DISCHARGE.--83 years, 9,321 ft^3/s (264.0 m^3/s), 13.11 in/yr (333 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 480,000 ft^3/s (13,600 m^3/s) Mar. 19, 1936, gage height, 41.03 ft (12.506 m) from rating curve extended above 300,000 ft^3/s (8,500 m^3/s) on the basis of adjustment of figure of peak flow at station near Washington for inflow and storage, and slope-area measurement of peak flow; minimum, 530 ft^3/s (15.0 m^3/s) Sept. 11, 12, 1966, gage height, 0.27 ft (0.082 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1889, reached a stage of 40.2 ft (12.25 m), from floodmarks, discharge, about 460,000 ft^3/s (13,000 m^3/s) from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 35,000 ft^3/s (990 m^3/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 9	1700	64300	1820	13.17	4.014	Mar. 28	0530	107000	3030	18.43	5.617
Dec. 2	2400	39300	1110	9.43	2.874	May 17	1700	100000	2830	17.67	5.386
Jan. 28	0600	132000	3740	21.22	6.468	July 5	1530	35600	1010	8.80	2.682
Mar. 16	1030	*139000	3940	22.01	6.709	Aug. 8	1800	37200	1050	9.07	2.765

Minimum discharge, 1,290 ft^3/s (36.5 m^3/s) Oct. 6, gage height, 0.81 ft (0.247 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1690	3300	13200	9130	22000	7360	32100	10800	8390	5730	5960	5670
2	1820	2910	32600	8290	18100	7120	26800	9640	7800	5140	6290	7800
3	1650	2650	36900	7500	15600	6920	23000	8820	7610	6170	8040	6870
4	1520	3200	26800	6640	13700	6570	20800	8220	7300	12100	7640	5710
5	1440	3610	19900	5860	11700	6090	18900	8060	6790	30600	11200	4600
6	1330	5160	16600	5760	10300	5970	17500	8350	6540	22600	12100	3950
7	1410	8980	15100	5680	8630	5770	17200	11200	6340	14200	17400	3510
8	1510	23200	14700	6000	8590	5470	16400	11800	5970	10200	34300	3260
9	1530	54200	12300	11000	8680	5400	15600	11200	5820	8900	28600	2970
10	1480	40800	10500	17700	8180	5410	14300	11500	5630	8130	17700	2780
11	1630	26200	9130	16200	8010	6150	13200	13000	5400	7410	12900	2490
12	1840	21800	7790	16100	7910	7700	12300	12700	5140	9070	11700	2560
13	2290	17300	7080	13500	7540	14000	11400	12100	5240	8460	14300	2740
14	2010	13300	6900	12500	7390	29900	10500	22300	5050	7010	14400	2780
15	1970	10500	7160	11500	6940	83200	9590	75100	4610	6010	14200	2800
16	2040	8850	7750	10400	6640	133000	8850	81000	4370	5660	13900	2830
17	2450	7990	10500	9300	6580	90600	8200	96300	4170	5510	11700	2770
18	2660	6930	14700	8510	6540	53900	7800	81900	4160	5930	9770	2740
19	3790	6050	21000	7780	6460	39200	7830	56500	4110	5650	7820	2640
20	3220	5470	26700	7100	6030	38000	8540	41400	3900	5280	6490	2500
21	2850	5210	27200	6270	5820	43000	9890	32100	3820	4730	5410	2610
22	2500	4940	25900	6810	5690	41000	9840	25300	4620	4170	4800	2480
23	2200	5220	22500	6370	5720	42300	9450	20500	5310	3880	4350	2410
24	1970	5890	18200	6060	5500	39600	8810	17200	5080	3500	3940	2270
25	1810	7250	15300	9310	5610	32800	8220	15500	5020	3330	3760	2280
26	1890	10900	14500	25500	5950	30600	7840	14900	4530	3300	3390	2170
27	2100	10800	13900	78300	6300	68300	7530	13700	4280	3290	3350	2170
28	2250	10100	12500	110000	6660	102000	9110	11900	4540	4020	3680	2060
29	3170	9240	10500	53200	---	78300	13400	10700	5650	5890	3810	1880
30	3320	8620	9500	36400	---	53500	12500	9650	5140	4750	4170	1780
31	3450	---	9230	27600	---	39600	---	8950	---	4830	3960	---
TOTAL	66790	350570	496540	562270	242770	1128730	397400	772290	162330	235450	311030	96080
MEAN	2155	11690	16020	18140	8670	36410	13250	24910	5411	7595	10030	3203
MAX	3790	54200	36900	110000	22000	133000	32100	96300	8390	30600	34300	7800
MIN	1330	2650	6900	5680	5500	5400	7530	8060	3820	3290	3350	1780
CFSM	.22	1.21	1.66	1.88	.90	3.77	1.37	2.58	.56	.79	1.04	.33
IN.	.26	1.35	1.91	2.17	.94	4.35	1.53	2.98	.63	.91	1.20	.37

CAL YR 1977 TOTAL 2600720 MEAN 7125 MAX 73700 MIN 1100 CFSM .74 IN 10.02
WTR YR 1978 TOTAL 4822250 MEAN 13210 MAX 133000 MIN 1330 CFSM 1.37 IN 18.59

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1960 to current year.
SUSPENDED SEDIMENT DISCHARGE: October 1960 to current year.

REMARKS.--Water temperatures are measured daily in field at time of sampling.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum daily, 33.5°C Aug. 24, 1964, July 19, 1977; minimum daily, 0.0°C on many days during winter periods.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,350 mg/L Apr. 3, 1970; minimum daily mean, 1 mg/L on many days most years.
SEDIMENT LOADS: Maximum daily, 689,000 tons (625,000 tonnes) June 23, 1972; minimum daily, 2.0 tons (1.8 tonnes) on many days during 1964, 1966-69.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum daily, 29.5°C July 21; minimum daily, river was ice covered on many days during winter periods.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 918 mg/L Mar. 16; minimum daily mean, 2 mg/L Feb. 20.
SEDIMENT LOADS: Maximum daily, 331,000 tons (300,000 tonnes) Mar. 16; minimum daily, 33 tons (30 tonnes) Feb. 20.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT 20...	1400	3150	395	8.5	12.0	17.5	18	170	75
NOV 21...	1200	5340	275	7.9	10.0	8.0	10	110	36
DEC 08...	1045	15000	210	--	1.0	2.5	6	84	33
JAN 16...	1200	9880	225	7.7	-2.0	.5	33	100	38
FEB 21...	1115	5960	380	--	2.5	1.5	10	150	49
MAR 16...	1530	136000	160	7.3	2.0	4.0	320	47	14
APR 27...	1030	7420	325	8.2	13.5	11.5	10	130	45
JUN 08...	1045	5960	330	8.1	25.0	23.0	3	140	38
JUL 20...	1100	5370	340	8.6	29.5	25.5	10	140	34
SEP 12...	1330	2530	375	8.9	31.0	25.5	40	160	46

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 20...	53	10	25	3.6	120	98	80	28	.1
NOV 21...	33	6.8	9.8	2.2	91	75	40	12	.1
DEC 08...	25	5.2	6.0	1.8	62	51	29	7.2	.0
JAN 16...	31	6.0	7.6	2.0	78	64	30	8.5	.0
FEB 21...	44	9.2	14	--	120	98	49	15	.1
MAR 16...	14	2.9	3.2	2.4	40	33	19	5.4	.0
APR 27...	40	8.5	11	1.7	110	90	47	10	.1
JUN 08...	40	8.9	9.2	2.0	120	98	41	8.7	.1
JUL 20...	41	9.2	11	2.4	120	110	40	10	.1
SEP 12...	47	11	16	3.0	140	120	50	17	.1

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT									
20...	2.8	279	262	.92	.10	1400	30	70	20
NOV									
21...	7.2	157	156	1.3	.06	440	50	30	20
DEC									
08...	7.0	114	112	1.3	.05	450	30	40	20
JAN									
16...	6.6	141	130	1.6	.04	570	30	50	30
FEB									
21...	11	214	201	2.0	.05	100	--	20	--
MAR									
16...	5.1	83	77	1.1	.02	17000	50	690	20
APR									
27...	2.0	190	175	1.1	.02	280	20	30	10
JUN									
08...	2.6	189	172	.82	.05	600	190	50	10
JUL									
20...	4.7	215	183	.93	.06	510	20	50	10
SEP									
12...	3.2	272	217	.63	.07	340	50	50	0

WATER QUALITY DATA, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1978

DATE	TRITIUM IN WATER MOLE- CULES (TU)	TRITIUM WATER MOLE- CULES COUNT ERROR (TU)
NOV , 1961		
03...	85.0	8.5
DEC		
10...	100	10.0
JUN , 1962		
05...	320	32.0
APR , 1963		
01-30	700	70.0
MAY		
01-31	850	85.0
JUN		
01-30	780	78.0
JUL		
01-31	800	80.0
AUG		
01-31	907	48.0
SEP		
01-30	860	86.0
OCT		
01-31	510	51.0
NOV		
01-30	480	48.0
DEC		
01-31	450	45.0
JAN , 1964		
01-31	540	54.0
FEB		
01-29	540	54.0
MAR		
01-31	750	75.0
APR		
01-30	790	79.0
MAY		
01-31	720	72.0
JUN		
01-30	520	52.0
JUL		
01-31	548	46.0
AUG		
01-31	498	50.0
SEP		
01-30	371	37.0

DATE	TRITIUM IN WATER MOLE- CULES (TU)	TRITIUM WATER MOLE- CULES COUNT ERROR (TU)
OCT , 1964		
01-31	380	38.0
NOV		
01-30	310	31.0
DEC		
01-31	400	40.0
JAN , 1965		
01-31	539	45.0
FEB		
01-28	425	42.0
MAR		
01-31	415	42.0
APR		
01-14	502	50.0
15-30	520	52.0
MAY		
01-31	434	43.0
JUN		
01-30	341	9.0
JUL		
01-31	326	10.0
AUG		
01-31	318	32.0
SEP		
01-30	313	31.0
OCT		
01-31	200	20.0
NOV		
01-30	169	17.0
DEC		
01-14	167	17.0
FEB , 1966		
14-28	325	32.0
MAR		
01-31	350	35.0
APR		
01-30	355	36.0
MAY		
01-10	433	43.0
JUL		
08-31	401	40.0

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1978

DATE	TRITIUM IN WATER MOLE- CULES (TU)	TRITIUM WATER MOLE- CULES COUNT ERROR (TU)
AUG , 1966		
01-31	331	33.0
SEP		
01-30	242	24.0
OCT		
01-31	265	26.0
NOV		
01-30	280	28.0
DEC		
01-31	249	13.0
JAN , 1967		
01-31	226	11.0
FEB		
01-28	285	28.0
MAR		
01-24	309	31.0
25-31	341	34.0
APR		
01-30	325	23.0
MAY		
01-31	320	20.0
JUN		
01-30	177	15.0
JUL		
01-31	210	23.0
AUG		
01-31	211	16.0
SEP		
01-24	176	15.0
NOV		
01-30	141	14.0
DEC		
01-31	189	20.0
JAN , 1968		
01-23	163	12.0
FEB		
01-29	189	15.0
MAR		
01-31	175	9.0
APR		
01-30	161	9.0
MAY , 1968		
01-31	154	9.0
JUN		
01-25	197	12.0
AUG		
01-31	113	6.0
SEP		
01-14	95.5	5.2
OCT		
01-31	99.9	5.9
NOV		
01-25	105	6.0
DEC		
01-31	133	8.0
JAN , 1969		
01-31	125	6.0
FEB		
01-28	130	6.0
MAR		
01-31	166	6.0
APR		
01-30	155	4.0
MAY		
01-31	191	8.0
JUN		
01-30	182	10.0
JUL		
01-31	132	10.0
AUG		
01-31	203	9.0
SEP		
01-30	141	4.0
NOV		
01-30	73.0	12.8
DEC		
01-31	186	12.0
JAN , 1970		
01-31	146	12.0
FEB		
01-28	144	13.0
MAR		
01-31	133	12.0
APR , 1970		
01-30	133	10.0
MAY		
01-31	136	10.0
JUN		
01-30	136	10.0
JUL		
01-31	162	10.0
AUG		
01-31	148	9.0
DEC		
01-31	140	14.0
JAN , 1971		
01-31	118	10.0
FEB		
01-28	100	10.0
MAR		
01-31	123	10.0
APR		
01-30	111	20.0
MAY		
01-31	141	12.0
JUN		
01-30	139	7.0
AUG		
01-31	115	7.0
SEP		
01-30	110	7.0
OCT		
01-31	101	6.0
NOV		
01-30	105	5.0
DEC		
01-31	103	5.0
JAN , 1972		
01-31	104	5.0
FEB		
01-29	86.5	4.9
MAR		
01-31	102	6.0
APR		
01-30	102	6.0
MAY , 1972		
01-31	107	6.0
JUN		
01-30	95.1	5.3
JUL		
01-31	96.3	5.4
AUG		
01-31	88.3	5.0
SEP		
01-30	80.9	4.8
OCT		
01-31	71.4	4.2
NOV		
01-30	73.6	4.2
DEC		
01-31	75.6	4.5
JAN , 1973		
01-31	45.8	4.0
FEB		
01-28	72.5	4.3
MAR		
01-31	71.3	4.2
APR		
01-30	53.7	3.1
MAY		
01-31	73.9	4.2
JUN		
01-30	73.0	4.2
JUL		
01-31	75.5	4.3
AUG		
01-31	78.9	4.5
SEP		
07...	62.5	2.7
JAN , 1974		
01-31	68.1	3.9
FEB		
01-28	68.9	3.9
MAR		
01-31	81.2	3.7
APR		
01-30	78.4	4.4

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1978

DATE	TRITIUM IN WATER MOLE-CULES (TU)	TRITIUM WATER MOLE-CULES COUNT ERROR (TU)
MAY , 1974		
01-31	69.9	4.0
JUN		
01-30	73.5	4.2
JUL		
01-31	72.0	4.1
AUG		
01-31	64.4	3.7
SEP		
01-30	63.1	3.7
OCT		
01-31	62.1	5.6
NOV		
01-30	57.2	4.4
DEC		
01-31	52.9	2.8
JAN , 1975		
01-31	55.7	5.9
FEB		
01-28	57.5	3.0
MAR		
01-31	68.2	6.6
APR		
01-30	60.5	3.0
MAY		
01-31	62.5	3.1
JUN		
01-30	62.4	3.2
JUL		
01-31	69.0	6.5
AUG		
01-31	48.3	5.1
SEP		
01-30	56.3	5.5
OCT		
01-31	52.4	5.4
NOV		
01-30	52.3	5.6
DEC		
01-31	59.4	6.3
JAN , 1976		
01-31	61.2	5.6
FEB , 1976		
01-29	55.7	5.1
MAR		
01-31	65.7	6.1
APR		
01-30	58.0	4.9
MAY		
01-31	59.5	4.9
JUN		
01-30	56.4	4.6
JUL		
01-31	61.0	5.2
AUG		
01-31	56.6	4.6
SEP		
01-30	47.7	4.5
OCT		
01-31	43.9	3.9
NOV		
01-30	47.2	3.9
DEC		
01-31	42.5	1.6
MAR , 1977		
01-31	50.2	3.6
APR		
01-30	47.1	3.6
MAY		
01-31	49.0	3.6
JUN		
01-14	52.4	5.1
AUG		
09-31	49.9	3.7
SEP		
01-30	45.0	2.1
OCT		
01-31	43.9	4.3
NOV		
01-30	36.5	3.3
DEC		
01-31	38.9	3.5
JAN , 1978		
02-05	48.3	3.4
FEB , 1978		
01-28	40.0	3.7
MAR		
01-31	44.4	3.7
APR		
01-30	45.5	3.1

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	14.0	---	---	---	---	---	16.5	---	---	---	25.0
2	---	15.0	6.5	2.0	---	4.5	---	16.5	---	---	---	24.0
3	18.0	16.0	---	1.0	1.5	---	10.5	17.0	---	---	---	24.0
4	17.0	14.0	---	1.5	1.0	3.0	12.0	---	---	---	---	24.0
5	18.0	17.5	---	2.0	---	---	---	14.0	25.0	22.0	---	24.0
6	17.0	---	6.0	2.5	---	3.0	10.5	---	---	22.0	---	24.0
7	17.0	---	4.0	---	---	3.5	14.0	---	23.0	---	---	25.0
8	---	15.5	3.0	---	---	3.0	---	---	---	---	26.0	25.0
9	---	15.5	---	---	2.5	---	---	---	25.0	---	26.0	26.0
10	15.0	15.0	---	---	1.5	---	14.0	17.0	26.0	26.0	---	23.0
11	16.5	12.5	---	---	1.5	---	14.0	17.5	---	25.5	---	23.5
12	---	11.5	2.0	---	---	---	17.0	18.5	---	26.0	---	25.0
13	---	---	3.0	---	2.0	7.0	17.0	---	---	26.0	---	24.0
14	14.0	9.5	2.0	---	---	7.0	16.5	---	23.0	26.0	---	22.0
15	---	9.5	4.0	---	3.5	4.5	---	15.0	24.0	---	---	21.0
16	---	10.0	5.0	---	2.0	---	---	13.5	25.0	---	27.5	22.5
17	---	---	4.0	---	3.0	---	16.5	13.0	---	---	27.0	22.0
18	12.0	---	---	---	3.0	5.0	14.5	13.0	---	---	26.0	24.0
19	12.0	---	---	---	---	---	---	---	27.5	28.5	26.0	26.0
20	13.0	---	5.0	---	3.0	8.0	13.5	---	---	28.0	27.0	24.0
21	14.0	---	---	---	3.0	9.0	13.0	---	---	29.5	25.0	24.0
22	---	---	---	---	2.5	10.0	---	20.0	27.5	---	24.0	25.0
23	---	---	---	---	3.0	11.0	---	---	27.0	---	24.0	22.0
24	13.5	---	6.0	---	3.5	10.0	15.5	19.5	---	---	25.0	22.0
25	---	8.0	---	---	5.5	4.0	13.5	---	---	---	25.0	21.0
26	---	---	2.0	---	---	---	12.5	21.5	26.0	---	26.5	20.0
27	15.5	---	---	---	---	7.5	14.0	---	---	---	27.0	19.0
28	16.5	---	---	---	---	8.0	16.5	---	28.0	---	26.0	19.0
29	15.5	---	2.5	---	---	10.0	---	---	29.0	---	27.0	---
30	---	---	2.0	---	---	10.0	---	25.0	29.0	---	26.0	17.0
31	13.0	---	---	1.0	---	11.0	---	25.0	---	---	26.0	---

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	88	402	45	401	36	1350	11	271	41	2440	40	795
2	90	442	37	291	137	12900	9	201	35	1710	65	1250
3	85	379	36	258	114	11500	21	425	29	1220	45	841
4	83	341	53	458	46	3310	11	197	23	851	15	266
5	71	276	43	419	36	1930	7	111	20	632	10	164
6	54	194	49	683	28	1250	6	93	18	501	15	242
7	45	171	80	2040	19	775	6	92	17	396	15	234
8	37	151	236	16300	18	714	6	97	15	348	35	517
9	28	116	573	82300	16	531	30	891	13	305	20	292
10	23	92	377	42800	14	397	35	1670	8	177	15	219
11	46	202	129	9260	11	271	20	875	12	260	10	166
12	23	114	73	4300	9	189	20	869	11	235	20	416
13	27	167	52	2430	6	115	15	547	8	163	61	2430
14	32	174	35	1260	4	75	15	506	10	200	145	12400
15	31	165	26	737	5	97	15	466	12	225	537	138000
16	30	165	22	526	7	146	10	281	7	125	918	331000
17	30	198	18	388	8	227	10	251	4	71	270	69600
18	31	223	16	299	18	772	10	230	6	106	149	22000
19	53	542	14	229	49	2860	10	210	4	70	118	12500
20	70	561	12	177	75	5410	5	96	2	33	107	11000
21	51	392	10	141	80	5880	5	85	6	94	97	11300
22	29	196	5	67	50	3500	5	92	28	430	87	9630
23	25	148	5	70	30	1820	5	86	27	417	87	9940
24	45	239	10	159	24	1180	5	82	22	327	116	12400
25	32	156	20	391	22	909	30	754	18	273	140	12400
26	23	117	30	883	21	822	150	10300	20	321	165	13900
27	21	119	20	583	18	676	480	101000	25	425	301	62100
28	20	121	15	409	15	506	630	187000	30	539	428	118000
29	46	394	10	249	12	340	185	28000	---	---	179	38100
30	62	556	5	116	14	359	90	9500	---	---	121	17600
31	67	624	---	---	14	349	47	5250	---	---	77	8230
TOTAL	---	8137	---	168624	---	61160	---	350528	---	12894	---	917932
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	57	4940	48	1400	24	544	22	340	35	563	45	689
2	45	3260	43	1120	22	463	28	278	30	509	48	1010
3	35	2170	40	953	21	431	25	416	40	868	33	612
4	30	1680	36	799	19	374	65	2350	35	722	26	401
5	30	1530	32	696	18	330	219	18700	50	1510	21	261
6	28	1320	30	676	15	265	607	37400	50	1630	20	213
7	21	975	52	1570	14	240	165	6330	62	3390	20	190
8	17	753	50	1590	10	161	120	3300	210	19800	17	150
9	15	632	46	1390	10	157	90	2160	319	25000	17	136
10	14	541	43	1340	10	152	65	1430	120	5730	16	120
11	22	784	38	1330	10	146	62	1240	75	2610	13	87
12	19	631	35	1200	10	139	54	1320	90	2840	14	97
13	11	339	30	980	10	141	50	1140	110	4250	16	118
14	12	340	126	8980	10	136	48	908	105	4080	13	98
15	12	311	372	76100	10	124	45	730	100	3830	14	106
16	14	335	198	43500	10	118	40	611	80	3000	14	107
17	14	310	239	61700	10	113	35	521	60	1900	19	142
18	14	295	156	34700	10	112	30	480	57	1500	17	126
19	15	317	116	17700	10	111	25	381	45	950	15	107
20	16	369	92	10300	10	105	20	285	39	683	12	81
21	17	454	73	6330	10	103	25	319	36	526	15	106
22	16	425	58	3960	15	187	25	281	26	337	16	107
23	16	408	54	2990	25	358	20	210	23	270	14	91
24	16	381	50	2320	20	274	20	189	22	234	14	86
25	14	311	45	1880	20	271	20	180	14	142	11	68
26	12	254	41	1650	18	220	20	178	11	101	10	59
27	10	203	37	1370	16	185	20	178	13	118	9	53
28	43	1060	34	1090	18	221	25	271	19	189	8	44
29	78	2820	31	896	25	381	40	636	22	226	7	36
30	65	2190	28	730	20	278	30	385	24	270	7	34
31	---	---	26	628	---	---	25	326	23	246	---	---
TOTAL	---	30338	---	291868	---	6840	---	83473	---	88024	---	5535

TOTAL LOAD FOR YEAR: 2025353 TONS.

01639000 MONOCACY RIVER AT BRIDGEPORT, MD

LOCATION.--Lat 39°40'43", long 77°14'06", Frederick County, Hydrologic Unit 02070009, on right bank 60 ft (18 m) downstream from bridge on State Highway 97 at Bridgeport, 0.9 mi (1.4 km) upstream from Cattail Branch, 3.4 mi (5.5 km) northwest of Taneytown, 4.8 mi (7.7 km) downstream from confluence of Rock and Marsh Creeks at Pennsylvania-Maryland State line, and 52 mi (83.7 km) upstream from mouth.

DRAINAGE AREA.--173 mi² (448 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1942 to current year.

REVISED RECORDS.--WSP 1382: 1944(M).

GAGE.--Water-stage recorder. Concrete control since Sept. 15, 1947. Datum of gage is 340.83 ft (103.885 m) Corps of Engineers datum. Prior to May 3, 1946, nonrecording gage and crest-stage gages at site 0.3 mi (0.5 km) downstream at datum 0.98 ft (0.299 m) lower.

REMARKS.--Water-discharge records good. Occasional regulation at low flow from unknown source above station.

AVERAGE DISCHARGE.--36 years, 202 ft³/s (5.721 m³/s), 15.86 in/yr (403 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,300 ft³/s (603 m³/s) June 22, 1972, gage height, 24.05 ft (7.330 m), from rating curve extended above 7,000 ft³/s (198 m³/s) on basis of slope-conveyance study; no flow July 24-29, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 24, 1933, reached a stage of about 25 ft (7.6 m) present site and datum, from floodmarks, discharge, about 23,000 ft³/s (651 m³/s). Stage exceeded that of June 1889, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,800 ft³/s (130 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Jan. 9	1030	5830	165	13.27	4.045	Mar. 26	2100	5470	155	12.79	3.898
Jan. 26	1330	*6460	183	14.08	4.292						

Minimum discharge, 4.5 ft³/s (0.13 m³/s) Aug. 20, gage height, 1.83 ft (0.558 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	42	2570	118	216	64	260	46	74	49	30	78
2	9.0	40	647	109	183	63	205	42	63	32	28	33
3	9.0	36	344	83	162	59	171	39	57	1540	26	20
4	8.5	171	267	73	129	58	175	39	65	981	20	16
5	8.0	168	479	82	109	57	191	76	57	267	22	13
6	9.0	94	967	88	95	53	152	91	47	151	24	11
7	12	893	306	88	101	52	178	65	43	104	28	10
8	11	1670	174	255	88	53	150	58	48	114	30	9.0
9	20	465	150	3450	96	52	116	202	56	148	50	7.9
10	70	454	120	396	84	55	105	138	47	82	35	7.5
11	35	1300	102	285	79	67	99	85	37	63	20	7.4
12	20	301	81	244	76	114	100	67	33	51	170	8.0
13	13	200	90	211	73	309	86	70	35	42	40	14
14	11	147	114	198	71	1780	76	1910	53	38	30	29
15	61	126	555	162	73	3580	67	1790	35	120	24	16
16	64	111	264	131	67	1840	64	2010	29	67	22	13
17	60	120	190	120	67	906	61	1390	28	52	19	11
18	98	150	2530	293	70	801	60	835	38	43	18	10
19	57	120	2100	273	69	1730	96	539	36	32	13	10
20	51	105	1210	157	63	2080	213	324	29	26	5.5	9.9
21	53	90	2670	168	58	1740	149	241	25	24	6.6	9.0
22	44	100	1030	151	62	1460	102	188	84	22	7.0	8.8
23	37	700	435	129	57	877	80	157	55	21	7.3	8.4
24	34	300	315	120	58	815	72	151	32	19	7.5	8.0
25	31	230	610	744	61	513	67	161	25	17	7.9	7.6
26	34	500	327	5240	67	2880	63	125	23	18	7.5	7.2
27	183	250	165	2390	71	2650	59	103	23	22	7.7	6.3
28	123	200	145	1060	66	972	55	94	88	27	47	6.2
29	71	180	135	638	---	575	51	90	54	35	60	5.9
30	54	350	142	398	---	372	48	80	101	21	21	5.2
31	46	---	140	255	---	299	---	70	---	19	19	---
TOTAL	1347.5	9613	19374	18109	2471	26926	3371	11276	1420	4247	853.0	406.3
MEAN	43.5	320	625	584	88.3	869	112	364	47.3	137	27.5	13.5
MAX	183	1670	2670	5240	216	3580	260	2010	101	1540	170	78
MIN	8.0	36	81	73	57	52	48	39	23	17	5.5	5.2
CFSM	.25	1.85	3.61	3.38	.51	5.02	.65	2.10	.27	.79	.16	.08
IN.	.29	2.07	4.17	3.89	.53	5.79	.72	2.42	.31	.91	.18	.09

CAL YR 1977 TOTAL 70100.4 MEAN 192 MAX 3880 MIN 3.4 CFSM 1.11 IN 15.07
WTR YR 1978 TOTAL 99413.8 MEAN 272 MAX 5240 MIN 5.2 CFSM 1.57 IN 21.38

01639000 MONOCACY RIVER AT BRIDGEPORT, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948-51, 1969-72, 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)
OCT											
12...	0945	19	378	7.9	12.5	11.0	8	8.5	15	2.6	12000
26...	0945	31	252	8.0	10.5	10.0	15	8.8	20	1.7	110
NOV											
09...	0930	472	200	7.6	14.5	12.0	15	9.7	30	2.0	6700
16...	1230	111	--	--	18.5	7.0	--	--	--	--	--
30...	0930	338	272	8.1	1.5	2.0	5	13.2	15	1.1	3100
DEC											
19...	1030	1870	162	8.3	3.0	.5	25	14.2	18	4.2	6000
JAN											
04...	0930	61	202	--	-6.0	1.0	3	13.7	13	.7	64
18...	1330	345	198	7.2	1.5	.5	6	13.6	19	3.3	400
19...	1000	267	--	--	-5.0	.5	--	--	--	--	--
31...	1000	277	175	7.3	-5.5	.5	5	13.6	12	1.2	92
FEB											
15...	1000	73	240	7.4	-2.5	.9	1	13.0	9	1.4	100
MAR											
01...	1015	65	330	7.2	.0	.5	4	13.0	15	2.3	67
13...	1200	237	--	--	9.5	.5	--	--	--	--	--
15...	0945	3210	125	6.8	8.0	.5	40	14.0	35	>8.7	2700
29...	0945	602	165	6.9	12.5	9.0	10	11.2	10	.8	620
30...	1700	378	--	--	11.0	10.0	--	--	--	--	--
APR											
12...	0940	98	195	8.9	13.0	13.5	5	12.2	10	3.8	K20
26...	0945	63	220	8.4	11.5	12.5	3	10.4	15	1.5	77
MAY											
02...	1400	42	--	--	17.0	15.5	--	--	--	--	--
09...	0945	247	255	7.8	17.0	13.5	4	8.3	20	5.3	490
24...	1000	149	180	7.3	14.0	17.5	5	8.6	10	1.0	190
JUN											
07...	1015	43	205	7.4	20.0	21.0	2	6.9	9	.4	160
14...	1400	55	--	--	18.0	22.0	--	--	--	--	--
21...	1000	24	245	7.6	26.0	25.0	10	6.0	20	3.2	330
JUL											
12...	1030	52	240	7.6	19.0	21.5	30	7.0	14	2.6	1300
26...	1000	17	250	8.1	23.0	23.5	10	6.2	31	2.2	240
AUG											
16...	0945	19	260	7.9	26.0	27.0	7	5.7	15	2.0	510
30...	1000	21	275	8.0	24.5	25.5	35	6.0	25	4.2	1000
SEP											
13...	0950	8.7	300	8.3	15.0	22.0	50	6.9	30	3.4	730

01639000 MONOCACY RIVER AT BRIDGEPORT, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
OCT										
12...	9500	--	--	--	--	--	--	--	--	238
26...	560	--	--	--	--	--	--	--	--	170
NOV										
09...	K16000	--	--	--	--	--	--	--	--	119
16...	--	--	--	--	--	--	--	--	--	--
30...	K20000	--	--	--	--	--	--	--	--	145
DEC										
19...	67000	15	4.6	2.9	31	25	22	7.1	--	100
JAN										
04...	150	--	--	--	--	--	--	--	--	114
18...	5600	--	--	--	--	--	--	--	--	113
19...	--	--	--	--	--	--	--	--	--	--
31...	470	--	--	--	--	--	--	--	--	105
FEB										
15...	1000	--	--	--	--	--	--	--	--	137
MAR										
01...	480	--	--	--	--	--	--	--	10	178
13...	--	--	--	--	--	--	--	--	--	--
15...	K18000	7.1	3.6	2.3	25	21	14	8.3	4.2	70
29...	830	--	--	--	--	--	--	--	10	79
30...	--	--	--	--	--	--	--	--	--	--
APR										
12...	310	--	--	--	--	--	--	--	1.4	101
26...	35	--	--	--	--	--	--	--	.8	124
MAY										
02...	--	--	--	--	--	--	--	--	--	--
09...	670	--	--	--	--	--	--	--	6.4	154
24...	220	13	5.4	1.4	65	53	21	8.4	8.1	105
JUN										
07...	730	--	--	--	--	--	--	--	7.5	121
14...	--	--	--	--	--	--	--	--	--	--
21...	280	--	--	--	--	--	--	--	6.7	129
JUL										
12...	870	--	--	--	--	--	--	--	--	157
26...	170	--	--	--	--	--	--	--	5.2	146
AUG										
16...	840	17	10	3.0	91	75	23	14	6.5	145
30...	380	--	--	--	--	--	--	--	5.7	151
SEP										
13...	390	--	--	--	--	--	--	--	2.2	176

01639000 MONOCACY RIVER AT BRIDGEPORT, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	OIL AND GREASE (MG/L)	CHLORO-PHYLL A PHYTO-PLANK-TON, UNCORR. (UG/L)	CHLORO-PHYLL B PHYTO-PLANK-TON, UNCORR. (UG/L)
OCT										
12...	16	1.8	.08	.75	.75	.84	5.9	--	12.0	3.90
26...	25	.83	.01	.02	.74	.27	8.1	--	4.10	.346
NOV										
09...	22	2.7	.02	.05	.77	.06	8.3	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
30...	10	2.9	.02	.14	.62	.11	8.5	--	1.44	1.04
DEC										
19...	40	2.1	.02	.18	.74	.17	12	--	1.41	.340
JAN										
04...	5	2.1	.02	.30	.17	.12	12	--	.000	.000
18...	8	2.2	.02	.22	.42	.11	10	--	.848	.414
19...	--	--	--	--	--	--	--	--	--	--
31...	4	1.5	.01	.10	.38	.05	9.1	--	.594	.665
FEB										
15...	2	1.8	.02	.49	.18	.15	1.3	--	1.06	.508
MAR										
01...	2	1.6	.03	.62	.48	.21	4.1	--	.716	.000
13...	--	--	--	--	--	--	--	--	--	--
15...	106	1.5	.02	.51	1.2	.24	8.6	0	3.82	1.84
29...	17	1.7	.02	.10	.30	.08	4.0	--	.701	.016
30...	--	--	--	--	--	--	--	--	--	--
APR										
12...	10	1.4	.01	.00	--	.03	4.9	--	19.4	.000
26...	6	.32	.02	.05	.36	.08	8.7	--	4.33	.079
MAY										
02...	--	--	--	--	--	--	--	--	--	--
09...	14	.76	.07	.59	.71	.31	6.4	--	8.22	.215
24...	10	1.1	.02	.06	.44	.10	5.2	0	3.00	.000
JUN										
07...	19	.65	.01	.03	.46	.14	4.9	--	5.83	.901
14...	--	--	--	--	--	--	--	--	--	--
21...	30	1.3	.05	.09	.88	.29	13	--	30.4	3.85
JUL										
12...	31	2.3	.03	.02	.56	.19	10	--	5.73	1.66
26...	29	.19	.01	.04	.61	.16	10	--	20.3	1.39
AUG										
16...	10	.37	.01	.04	.59	.36	5.6	0	17.8	1.64
30...	64	.25	.01	.04	.80	.35	5.8	--	49.7	.655
SEP										
13...	71	.04	.00	.05	1.1	.35	4.4	--	111	.000

01639000 MONOCACY RIVER AT BRIDGEPORT, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
SEP												
14...	1240	27	--	--	20.5	20.0	--	--	--	--	--	--
27...	1000	5.0	350	8.1	15.5	15.0	15	8.2	20	1.2	220	120

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CHLORO-PHYLL A PHYTO-PLANK-TON, UNCORR. (UG/L)	CHLORO-PHYLL B PHYTO-PLANK-TON, UNCORR. (UG/L)
SEP											
14...	--	--	--	--	--	--	--	--	--	--	--
27...	3.9	201	18	.23	.01	.03	.40	.19	3.8	9.00	.246

01639500 BIG PIPE CREEK AT BRUCEVILLE, MD

LOCATION.--Lat 39°36'45", long 77°14'10", Carroll County, Hydrologic Unit 02070009, on left bank 300 ft (91 m) downstream from bridge on State Highway 194, 800 ft (240 m) downstream from Bruceville, 3.5 mi (5.6 km) upstream from Detour, and confluence with Little Pipe Creek.

DRAINAGE AREA.--102 mi² (264 km²).

PERIOD OF RECORD.--October 1947 to current year. Prior to December 1947, monthly discharge only, published in WSP 1302.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 340 ft (104 m), from topographic map.

REMARKS.--Records good except those for winter months, which are fair. Occasional diversion for irrigation above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years, 111 ft³/s (3.144 m³/s), 14.78 in/yr (375 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft³/s (793 m³/s) Sept. 26, 1975, gage height, 18.98 ft (5.785 m), from rating curve extended above 3,900 ft³/s (110 m³/s) on the basis of contracted-opening measurement at gage height 17.86 ft (5.444 m); minimum daily, 1.0 ft³/s (0.028 m³/s) Sept. 12, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,600 ft³/s (45 m³/s) and maximum (*):

Date	Time	Discharge		Gage height		Date	Time	Discharge		Gage height	
		(ft³/s)	(m³/s)	(ft)	(m)			(ft³/s)	(m³/s)	(ft)	(m)
Dec. 18	1200	2450	69.4	7.30	2.225	Jan. 26	Unknown	*5720	162	11.12	3.389
Dec. 21	1230	1730	49.0	6.01	1.832	Mar. 14	1830	2670	75.6	7.65	2.332
Jan. 9	0530	3450	97.7	8.79	2.679	Mar. 26	1800	2910	82.4	8.02	2.444

Minimum discharge, 13 ft³/s (0.37 m³/s) Oct. 14, gage height, 0.81 ft (0.247 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	31	643	106	183	78	208	75	83	56	48	135
2	19	30	195	104	169	78	182	73	75	59	50	50
3	19	32	135	99	152	78	167	72	76	634	43	40
4	17	101	108	88	137	78	172	74	85	254	41	37
5	15	61	177	106	121	76	173	103	73	128	42	33
6	20	47	222	90	108	72	146	90	70	95	45	31
7	23	181	106	91	104	70	152	82	68	80	48	30
8	19	228	92	143	122	68	130	80	73	72	44	30
9	33	91	87	1350	115	67	117	117	159	91	37	31
10	57	79	80	189	112	69	114	99	80	69	36	28
11	27	102	76	189	107	104	113	80	68	65	44	28
12	23	66	71	157	105	217	125	76	64	57	54	30
13	22	56	70	167	97	534	107	104	74	54	41	61
14	20	51	147	225	93	1280	100	441	66	52	37	35
15	166	48	325	153	94	1150	96	469	60	55	36	30
16	50	46	135	120	94	418	94	501	58	57	36	31
17	55	51	108	279	85	285	92	345	69	65	33	30
18	52	62	1320	389	89	293	91	266	70	52	30	28
19	36	48	713	189	88	528	132	211	61	48	28	29
20	38	44	446	150	86	410	184	172	55	46	29	28
21	36	44	1080	170	84	355	117	150	54	43	25	28
22	30	58	461	150	84	314	104	127	93	43	26	28
23	27	259	300	120	80	246	97	116	63	42	25	27
24	26	125	251	110	78	216	95	120	56	40	25	25
25	26	90	270	570	80	188	93	115	53	37	25	25
26	30	217	189	3990	91	1470	89	101	52	43	32	25
27	128	99	149	658	92	1120	87	95	55	41	32	23
28	62	82	135	340	92	463	83	95	109	40	170	24
29	43	77	123	270	---	337	80	92	76	37	45	23
30	36	108	120	215	---	269	78	88	82	36	35	23
31	32	---	112	198	---	233	---	84	---	39	43	---
TOTAL	1206	2614	8446	11175	2942	11164	3618	4713	2180	2530	1285	1026
MEAN	38.9	87.1	272	360	105	360	121	152	72.7	81.6	41.5	34.2
MAX	166	259	1320	3990	183	1470	208	501	159	634	170	135
MIN	15	30	70	88	78	67	78	72	52	36	25	23
CFSM	.38	.85	2.67	3.53	1.03	3.53	1.19	1.49	.71	.80	.41	.34
IN.	.44	.95	3.08	4.08	1.07	4.07	1.32	1.72	.80	.92	.47	.37

CAL YR 1977 TOTAL 35013 MEAN 95.9 MAX 1860 MIN 15 CFSM .94 IN 12.77
WTR YR 1978 TOTAL 52899 MEAN 145 MAX 3990 MIN 15 CFSM 1.42 IN 19.29

01640500 OWENS CREEK AT LANTZ, MD

LOCATION.--Lat 39°40'36", long 77°27'50", Frederick County, Hydrologic Unit 02070009, on right bank 0.5 mi (0.8 km) west of Lantz Post Office (Deerfield station on Western Maryland Railway), 1.5 mi (2.4 km) south of Sabillasville, 4.5 mi (7.2 km) northwest of Thurmont, and 14.2 mi (22.8 km) upstream from mouth.

DRAINAGE AREA.--5.93 mi² (15.36 km²).

PERIOD OF RECORD.--October 1931 to current year.

REVISED RECORDS.--WSP 921: 1932(m). WSP 1202: 1935(M). WSP 1382: Drainage area. WSP 1432: 1937(M), 1943(M), 1949(P).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 965 ft (294 m), from topographic map.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--47 years, 9.23 ft³/s (0.261 m³/s), 21.14 in/yr (537 mm/yr), adjusted for diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,270 ft³/s (92.6 m³/s) Dec. 1, 1934, gage height, 8.4 ft (2.56 m), from rating curve extended above 750 ft³/s (21.2 m³/s) on basis of slope-area measurements at gage heights 5.11 ft (1.558 m) and 6.30 ft (1.920 m); no flow Sept. 2-11, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 120 ft³/s (3.4 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 7	2145	212	6.00	3.29	1.003	May 14	1345	167	4.73	3.10	0.945
Jan. 9	0015	256	7.25	3.45	1.052	May 15	1200	190	5.38	3.20	0.975
Jan. 26	0630	129	3.65	2.91	0.887	May 16	0200	305	8.64	3.61	1.100
May 13	2015	*580	16.4	4.39	1.338	July 3	0830	169	4.79	3.11	0.948

Minimum discharge, 0.35 ft³/s (0.010 m³/s) Oct. 4, 5, gage height, 0.96 ft (0.293 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.49	1.7	44	12	16	5.2	27	6.5	11	3.1	3.3	3.6
2	.61	1.9	21	11	13	5.0	23	6.3	9.1	7.7	3.0	1.5
3	.46	9.4	17	9.7	12	5.3	22	6.0	9.9	66	3.0	1.3
4	.40	42	14	9.4	12	5.0	21	6.8	8.9	26	4.6	1.2
5	.37	12	16	8.8	11	4.9	19	10	7.8	13	2.9	1.1
6	.86	26	17	8.7	11	4.6	17	7.6	7.4	9.5	3.4	1.1
7	.72	114	11	8.8	10	4.6	17	6.8	7.4	8.0	6.4	.99
8	.56	69	10	28	9.4	4.6	14	7.9	7.3	8.1	3.3	.93
9	5.7	30	9.8	74	9.0	4.7	13	13	7.7	7.5	2.4	.85
10	1.7	38	8.8	28	8.8	4.9	13	8.5	6.4	6.8	2.2	.78
11	.85	33	8.0	22	8.4	5.4	13	8.0	5.9	6.2	2.3	.85
12	.63	21	8.0	20	7.9	6.6	12	7.7	5.7	5.5	2.9	.85
13	.53	16	8.0	17	7.8	9.4	10	92	7.3	5.1	2.5	1.2
14	.68	13	14	16	7.6	39	9.7	102	5.7	5.2	2.4	.92
15	4.5	11	14	14	7.1	52	9.3	116	5.2	5.1	2.1	.98
16	9.6	9.9	9.4	13	7.0	31	8.7	160	4.9	5.0	1.8	.84
17	15	12	8.8	12	7.0	22	8.5	85	7.9	4.8	1.6	4.1
18	3.5	9.8	48	11	7.0	17	8.3	63	5.9	4.2	1.4	2.8
19	2.1	8.4	35	10	6.5	28	12	46	4.8	3.8	1.4	3.0
20	2.1	7.7	25	10	6.4	35	12	37	4.4	3.6	1.3	1.4
21	1.5	8.0	36	9.6	6.3	56	9.1	30	6.8	3.4	1.2	1.2
22	1.2	8.1	25	9.0	5.9	63	8.5	25	17	3.2	1.2	1.1
23	1.1	20	20	8.4	5.9	58	8.1	22	5.7	3.0	1.1	.99
24	.97	12	20	8.2	5.9	52	8.0	22	4.6	2.8	1.1	.91
25	.93	11	40	45	5.8	41	7.8	18	4.2	3.1	1.1	.92
26	3.5	17	23	87	5.7	64	7.5	15	4.1	3.3	1.2	.78
27	16	11	19	40	5.5	85	7.2	14	5.6	3.2	1.6	.78
28	5.9	10	16	28	5.2	59	7.0	13	6.3	3.9	2.0	.79
29	3.1	9.7	14	24	---	45	6.8	12	3.9	2.6	1.3	.75
30	2.3	13	13	20	---	38	6.6	11	3.5	2.6	1.2	.75
31	1.9	---	13	18	---	31	---	12	---	3.8	5.1	---
TOTAL	89.76	605.6	585.8	640.6	231.1	886.2	366.1	990.1	202.3	239.1	72.3	39.26
MEAN	2.90	20.2	18.9	20.7	8.25	28.6	12.2	31.9	6.74	7.71	2.33	1.31
MAX	16	114	48	87	16	85	27	160	17	66	6.4	4.1
MIN	.37	1.7	8.0	8.2	5.2	4.6	6.6	6.0	3.5	2.6	1.1	.75
CFSM	.49	3.41	3.19	3.49	1.39	4.82	2.06	5.38	1.14	1.30	.39	.22
IN.	.56	3.80	3.67	4.02	1.45	5.56	2.30	6.21	1.27	1.50	.45	.25

CAL YR 1977	TOTAL	3370.78	MEAN	9.24	MAX	114	MIN	.35	CFSM	1.56	IN	21.14
WTR YR 1978	TOTAL	4948.22	MEAN	13.6	MAX	160	MIN	.37	CFSM	2.29	IN	31.04

01641000 HUNTING CREEK AT JIMTOWN, MD

LOCATION.--Lat 39°35'40", long 77°23'50", Frederick County, Hydrologic Unit 02070009, on right bank just downstream from highway bridge, 0.4 mi (0.6 km) southwest of Jimtown, about 2.2 mi (3.5 km) southeast of Thurmont, 2.2 mi (3.5 km) upstream from Little Hunting Creek, and 5.2 mi (8.4 km) upstream from mouth.

DRAINAGE AREA.--18.4 mi^2 (47.7 km^2).

PERIOD OF RECORD.--October 1949 to current year.

REVISED RECORDS.--WSP 1332: 1952.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 355 ft (108 m), from topographic map.

REMARKS.--Records good. Slight regulation at irregular intervals caused by pumpage at recreation camp near Foxville, and from occasional draining and refilling of pond near Thurmont by Maryland Game and Inland Fish Commission. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--29 years, 26.2 ft^3/s (0.742 m^3/s), 19.34 in/yr (491 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,670 ft^3/s (75.6 m^3/s) Oct. 9,, 1976, gage height, 6.32 ft (1.926 m); minimum, 0.4 ft^3/s (0.011 m^3/s) Sept. 9, 1966, gage height, 1.48 ft (0.451 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 350 ft^3/s (9.9 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Nov. 7	2400	372	10.5	3.11	0.948	May 14	1500	798	22.6	3.97	1.210
Jan. 9	0200	431	12.2	3.25	0.991	May 15	1130	757	21.4	3.90	1.189
Jan. 26	0900	838	23.7	4.04	1.231	May 16	0300	*1040	29.5	4.36	1.329
Mar. 26	1700	355	10.1	3.07	0.936	July 3	0830	359	10.2	3.08	0.939
May 13	2400	923	26.1	4.18	1.274						

Minimum discharge, 2.8 ft^3/s (0.079 m^3/s) Oct. 13, gage height, 1.58 ft (0.482 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	7.2	104	36	60	17	67	21	29	10	8.7	7.4
2	4.8	7.2	57	35	56	16	61	20	27	22	8.0	5.1
3	4.2	14	61	31	50	16	57	19	28	197	8.0	4.8
4	4.1	65	56	30	46	16	57	22	27	97	10	4.3
5	4.3	26	65	29	40	16	56	30	23	50	9.1	4.3
6	5.2	28	59	29	36	16	50	27	21	35	9.3	4.3
7	4.5	187	51	30	34	15	50	24	20	27	15	5.3
8	4.5	185	47	60	30	15	44	31	21	22	11	8.7
9	12	82	46	163	30	15	40	49	30	20	8.8	8.7
10	4.8	116	38	60	26	16	38	36	22	18	7.6	8.6
11	3.6	128	28	52	21	23	37	32	19	16	10	8.7
12	3.4	90	24	50	20	30	36	29	16	14	13	9.3
13	3.1	59	23	48	19	45	34	144	18	13	9.0	9.4
14	6.6	40	35	50	19	85	32	473	16	12	8.4	8.6
15	15	20	30	46	18	95	31	483	14	12	7.6	8.8
16	9.5	18	22	44	17	93	30	680	13	12	6.8	8.4
17	29	20	21	46	18	76	28	272	21	11	5.7	15
18	7.8	18	130	50	18	64	19	195	18	11	5.1	10
19	6.5	15	134	44	18	71	34	148	15	9.9	4.7	11
20	6.1	14	100	41	18	72	44	96	13	9.3	4.0	8.6
21	6.8	15	135	39	18	85	36	57	14	8.6	3.8	8.5
22	5.3	16	105	35	17	105	32	62	34	8.3	4.0	8.0
23	5.0	42	93	34	17	93	30	60	25	7.8	3.9	7.8
24	5.0	25	86	32	17	85	29	61	17	7.2	3.9	7.2
25	5.1	24	89	106	18	73	27	55	13	7.6	4.3	5.5
26	11	30	74	482	18	196	26	49	12	8.0	4.4	5.0
27	27	23	60	145	18	227	25	44	16	8.0	5.6	4.9
28	11	25	46	89	17	138	24	40	16	9.0	6.1	4.8
29	8.5	25	41	74	---	100	23	37	12	7.1	4.9	4.5
30	7.9	35	38	68	---	83	22	35	11	6.4	4.8	4.4
31	7.2	---	37	64	---	73	---	32	---	8.8	8.1	---
TOTAL	243.1	1399.4	1935	2142	734	2070	1119	3363	581	705.0	223.6	219.9
MEAN	7.84	46.6	62.4	69.1	26.2	66.8	37.3	108	19.4	22.7	7.21	7.33
MAX	29	187	135	482	60	227	67	680	34	197	15	15
MIN	3.1	7.2	21	29	17	15	19	19	11	6.4	3.8	4.3
CFSM	.43	2.53	3.39	3.76	1.42	3.63	2.03	5.87	1.05	1.23	.39	.40
IN.	.49	2.83	3.91	4.33	1.48	4.18	2.26	6.80	1.17	1.43	.45	.44

CAL YR 1977 TOTAL 9809.6 MEAN 26.9 MAX 389 MIN 2.6 CFSM 1.46 IN 19.83
WTR YR 1978 TOTAL 14735.0 MEAN 40.4 MAX 680 MIN 3.1 CFSM 2.20 IN 29.79

01641500 FISHING CREEK NEAR LEWISTOWN, MD

LOCATION.--Lat 39°31'35", long 77°28'00", Frederick County, Hydrologic Unit 02070009, on left bank immediately upstream from Fishing Creek Reservoir, 50 ft (15 m) downstream from Little Fishing Creek, 2.8 mi (4.5 km) west of Lewistown, and 9.9 mi (15.9 km) upstream from mouth.

DRAINAGE AREA.--7.29 mi^2 (18.88 km^2).

PERIOD OF RECORD.--October 1947 to current year.

REVISED RECORDS.--WSP 1432: Drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 735 ft (224 m), from topographic map.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years, 11.5 ft^3/s (0.326 m^3/s), 21.42 in/yr (544 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,200 ft^3/s (62.3 m^3/s) Oct. 9, 1976, gage height, 5.75 ft (1.753 m), from rating curve extended above 100 ft^3/s (2.83 m^3/s) on basis of slope-area measurement at gage height 3.73 ft (1.137 m), and computation of flow over dam at gage height, 5.75 ft (1.753 m); minimum, 0.6 ft^3/s (0.017 m^3/s) Sept. 10, 11, 12, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft^3/s (2.8 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 26	0700	100	2.83	2.32	0.707	May 16	0430	*240	6.80	2.92	0.890

Minimum discharge, 1.2 ft^3/s (0.034 m^3/s) Oct. 12, 13, 14, gage height, 1.15 ft (0.350 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	2.2	46	23	29	8.0	37	13	18	5.5	5.8	4.8
2	1.9	2.2	37	22	26	7.6	32	12	15	9.7	5.3	3.3
3	1.5	4.3	34	20	24	8.0	29	12	15	37	5.1	3.1
4	1.4	18	31	18	22	7.6	28	12	14	22	6.0	3.1
5	1.4	9.2	31	17	20	7.2	26	15	13	17	5.2	2.9
6	1.7	10	29	16	20	7.2	23	13	12	14	5.2	2.8
7	1.6	53	25	16	19	7.2	23	12	12	13	6.9	2.7
8	1.6	64	22	22	17	7.2	21	14	12	12	5.7	2.7
9	4.6	45	21	59	16	7.1	19	20	15	11	4.7	2.7
10	2.0	45	19	40	15	7.2	18	18	11	11	4.4	2.5
11	1.5	49	18	34	14	7.5	18	18	10	10	14	2.5
12	1.3	40	17	32	14	8.2	18	18	9.7	9.4	19	2.5
13	1.3	33	16	30	13	9.5	17	32	10	8.9	6.4	2.9
14	1.6	28	19	29	13	16	15	83	9.0	9.0	5.4	2.5
15	4.1	25	20	25	12	23	15	119	8.4	8.9	4.8	2.4
16	3.7	22	17	22	11	23	14	191	7.9	8.7	4.3	2.3
17	8.0	22	17	22	11	22	14	126	15	8.1	4.0	2.3
18	2.6	19	47	21	11	20	14	90	9.8	7.6	3.8	2.2
19	2.0	17	54	18	11	22	18	70	8.1	7.2	3.6	2.5
20	2.2	15	50	18	11	24	18	58	7.4	7.0	3.5	2.2
21	1.9	15	55	16	9.9	34	16	50	7.6	6.7	3.4	2.2
22	1.7	14	49	15	9.6	53	15	43	12	6.5	3.3	2.2
23	1.7	23	44	14	9.4	56	15	38	7.8	6.2	3.2	2.1
24	1.7	18	40	13	8.9	53	15	34	7.1	5.9	3.1	2.0
25	1.8	19	41	35	8.9	47	15	30	6.8	6.0	3.1	2.0
26	3.2	21	36	77	8.7	57	15	26	6.7	6.0	3.1	1.8
27	8.5	19	34	57	8.4	69	14	24	6.9	5.9	5.4	1.8
28	3.9	18	32	48	8.0	65	14	22	7.1	6.0	4.8	1.8
29	2.7	18	29	42	---	56	13	20	6.2	5.2	3.3	1.8
30	2.4	20	27	36	---	48	13	19	6.2	5.1	3.3	1.8
31	2.2	---	25	32	---	42	---	19	---	6.0	4.8	---
TOTAL	79.2	707.9	982	889	400.8	829.5	562	1271	306.7	302.5	163.9	74.4
MEAN	2.55	23.6	31.7	28.7	14.3	26.8	18.7	41.0	10.2	9.76	5.29	2.48
MAX	8.5	64	55	77	29	69	37	191	18	37	19	4.8
MIN	1.3	2.2	16	13	8.0	7.1	13	12	6.2	5.1	3.1	1.8
CFSM	.35	3.24	4.35	3.94	1.96	3.68	2.57	5.62	1.40	1.34	.73	.34
IN.	.40	3.61	5.01	4.54	2.04	4.23	2.87	6.48	1.56	1.54	.84	.38

CAL YR 1977 TOTAL 4434.2 MEAN 12.1 MAX 90 MIN 1.3 CFSM 1.66 IN 22.62
WTR YR 1978 TOTAL 6568.9 MEAN 18.0 MAX 191 MIN 1.3 CFSM 2.47 IN 33.52

01641810 MONOCACY RIVER NEAR WALKERSVILLE, MD

LOCATION.--Lat 39°28'47", long 77°23'18", Frederick County, Hydrologic Unit 02070009, at Biggs Ford Bridge on Biggs Ford Road, 2.0 mi (3.2 km) west of Walkersville, 4.7 mi (7.6 km) north of Frederick, 9.3 mi (15.0 km) upstream from Linganore Creek, and 26.5 mi (42.6 km) upstream from mouth.

DRAINAGE AREA.--637 mi^2 (1,650 km^2), approximately.

PERIOD OF RECORD.--Water years 1974 to current year.

REMARKS.--Records of discharge are based on records for station 01643000 Monocacy River at Jug Bridge near Frederick, adjusted on the basis of the drainage area ratio.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)
OCT											
12...	1115	136	256	7.9	12.5	12.0	9	10.3	15	1.6	4200
26...	1110	128	261	7.7	12.0	11.0	15	9.6	8	1.6	390
NOV											
09...	1115	1700	180	7.5	14.5	12.0	40	9.3	30	2.9	K12000
30...	1150	732	225	7.6	3.0	3.0	5	12.2	13	1.0	3400
DEC											
19...	1215	9280	144	7.1	3.5	1.0	45	12.8	23	4.6	6000
JAN											
04...	1115	490	198	--	-2.5	1.0	2	13.5	8	.4	29
18...	1140	1370	202	7.3	.0	1.0	35	13.4	14	2.2	1400
31...	1145	1300	171	7.0	-3.0	1.0	4	13.6	9	1.3	57
FEB											
15...	1145	490	220	7.2	-.5	1.0	2	13.4	3	.7	K3
MAR											
01...	1145	450	260	7.5	.5	2.0	4	13.4	13	3.2	65
15...	1130	11300	140	6.7	9.0	1.0	200	13.6	45	>9.2	2400
29...	1115	2650	160	7.3	16.0	9.0	15	10.6	10	.6	240
APR											
12...	1100	680	185	8.7	18.5	13.5	4	11.6	15	1.9	51
26...	1115	470	195	8.7	11.5	12.5	3	11.0	10	1.4	88
MAY											
09...	1100	608	200	7.5	17.5	13.5	10	8.6	15	5.2	K14000
24...	1115	952	170	7.2	15.0	16.5	9	8.8	10	1.1	460
JUN											
07...	1130	371	205	7.4	20.0	20.5	3	7.9	15	.2	440
21...	1130	257	220	7.5	25.5	25.0	5	7.7	10	1.3	700
JUL											
12...	1145	335	230	7.6	24.5	23.0	20	7.9	11	2.6	400
26...	1130	183	250	8.3	24.0	24.0	3	8.3	21	2.6	260
AUG											
16...	1130	169	240	7.9	29.5	28.0	20	6.6	11	1.8	3800
30...	1130	212	210	8.0	26.5	26.0	30	6.6	26	3.3	3600
SEP											
13...	1110	138	160	8.4	16.0	22.5	20	7.4	14	1.0	670
27...	1130	97	280	8.3	19.0	16.5	15	8.7	15	.9	660

01641810 MONOCACY RIVER NEAR WALKERSVILLE, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT											
12...	1900	100	26	27	30	6.0	6.4	9.2	10	3.8	4.1
26...	740	110	34	29	32	6.3	6.9	8.7	9.5	3.4	3.7
NOV											
09...	K46000	66	30	17	18	5.4	5.0	5.0	5.0	3.5	3.5
30...	K11000	84	33	21	24	5.4	5.9	6.0	6.6	2.3	2.6
DEC											
19...	69000	53	29	13	15	4.4	3.8	--	3.6	3.1	3.1
JAN											
04...	100	77	36	19	22	4.9	5.3	5.3	5.6	1.5	1.8
18...	K12000	72	37	18	21	4.9	4.7	7.6	9.0	1.9	2.2
31...	390	61	31	16	17	4.3	4.4	5.7	5.8	1.6	1.9
FEB											
15...	36	75	34	19	22	4.7	4.9	5.7	7.0	1.5	1.6
MAR											
01...	2200	83	33	21	24	5.5	5.7	8.6	9.0	2.4	2.9
15...	K54000	36	14	8.6	10	4.2	2.6	3.8	4.6	2.7	3.1
29...	K2700	56	--	--	16	--	4.0	--	4.9	--	2.1
APR											
12...	530	65	--	--	19	--	4.2	--	5.4	--	1.7
26...	320	77	--	--	23	--	4.7	--	5.8	--	1.8
MAY											
09...	K33000	75	--	--	22	--	4.9	--	6.6	--	2.3
24...	900	63	7	--	18	--	4.4	--	4.7	--	1.5
JUN											
07...	370	78	--	--	23	--	5.1	--	5.2	--	1.9
21...	280	83	--	--	25	--	5.1	--	6.1	--	2.0
JUL											
12...	270	88	--	--	26	--	5.6	--	6.5	--	2.4
26...	120	110	--	--	33	--	6.3	--	6.9	--	2.7
AUG											
16...	430	99	25	--	30	--	5.9	--	7.0	--	3.5
30...	770	78	--	--	24	--	4.5	--	6.2	--	5.6
SEP											
13...	530	100	100	--	32	--	5.8	--	8.5	--	3.0
27...	150	110	--	--	34	--	6.8	--	8.0	--	2.8

DATE	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
OCT											
12...	92	75	22	15	--	149	--	27	1.4	.01	.03
26...	91	75	22	14	--	163	--	22	1.6	.01	.02
NOV											
09...	43	35	24	8.7	--	101	--	66	2.0	.02	.05
30...	62	51	27	10	--	123	--	7	2.7	.02	.07
DEC											
19...	29	24	18	7.7	--	88	--	137	2.1	.02	.16
JAN											
04...	50	41	18	8.9	--	116	--	0	2.9	.01	.09
18...	43	35	16	15	--	114	--	72	2.9	.02	.10
31...	36	30	17	9.9	--	93	--	8	2.3	.01	.06
FEB											
15...	50	41	17	11	--	114	--	3	2.7	.02	.09
MAR											
01...	62	51	18	17	6.6	141	114	2	2.6	.03	.09
15...	27	22	14	8.4	4.0	68	60	364	1.5	.03	.54
29...	--	--	--	--	8.1	71	--	24	2.0	.02	.07
APR											
12...	--	--	--	--	1.9	94	--	1	1.8	.02	.09
26...	--	--	--	--	.7	89	--	8	1.2	.03	.04
MAY											
09...	--	--	--	--	4.6	121	--	28	1.4	.04	.17
24...	68	56	15	7.5	7.6	100	92	35	1.7	.02	.03
JUN											
07...	--	--	--	--	5.7	180	--	9	1.7	.01	.03
21...	--	--	--	--	5.4	122	--	6	1.4	.01	.00
JUL											
12...	--	--	--	--	8.0	143	--	18	2.5	.01	.01
26...	--	--	--	--	2.2	152	--	14	1.2	.01	.00
AUG											
16...	91	75	14	12	7.0	150	124	22	1.7	.02	.03
30...	--	--	--	--	5.0	151	--	22	1.6	.03	.04
SEP											
13...	--	--	--	--	3.5	162	--	70	1.3	.01	.00
27...	--	--	--	--	3.5	166	--	21	1.6	.01	.01

01641810 MONOCACY RIVER NEAR WALKERSVILLE, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITROGEN, ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
OCT										
12...	.51	.22	260	--	0	0	<10	5	560	50
26...	.51	.17	560	--	0	0	<10	3	940	60
NOV										
09...	.77	.22	1000	--	0	0	<10	5	2000	100
30...	.67	.09	130	--	0	1	<10	2	0	40
DEC										
19...	.94	.25	3000	--	3	1	30	8	1000	70
JAN										
04...	.13	.06	100	--	1	1	<10	4	190	30
18...	.72	.16	1000	--	0	1	<10	7	1800	40
31...	.28	.04	10	--	0	0	<10	5	440	30
FEB										
15...	.16	.06	90	--	0	4	10	4	140	20
MAR										
01...	.60	.11	120	--	0	1	<10	2	180	50
15...	1.4	.34	7000	40	1	0	20	13	10000	50
29...	.24	.08	570	--	--	1	10	2	1200	--
APR										
12...	--	.09	170	--	--	3	<10	4	200	--
26...	.38	.03	150	--	--	1	<10	1	150	--
MAY										
09...	.62	.15	340	--	--	0	10	3	650	--
24...	.47	.08	460	40	--	1	10	0	810	--
JUN										
07...	.34	.07	190	--	--	5	10	6	310	--
21...	.12	.10	280	--	--	4	<10	5	340	--
JUL										
12...	.56	.12	--	--	0	--	--	--	--	--
26...	.62	.09	120	--	--	0	10	4	330	--
AUG										
16...	.41	.21	380	30	--	5	20	4	1200	30
30...	.92	.23	750	--	1	6	10	5	1100	--
SEP										
13...	.74	.18	650	--	1	5	<10	4	1100	--
27...	.36	.15	400	--	1	9	10	2	650	--

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	OIL AND GREASE (MG/L)	CHLOROPHYLL A PHYTOPLANKTON, UNCORR. (UG/L)	CHLOROPHYLL B PHYTOPLANKTON, UNCORR. (UG/L)
OCT										
12...	4	50	10	0	10	--	--	0	8.31	1.58
26...	7	70	30	0	10	--	7.8	0	4.47	.000
NOV										
09...	21	110	20	0	10	--	7.4	--	1.00	.000
30...	17	20	20	0	10	--	8.8	30	3.19	.379
DEC										
19...	35	170	30	0	30	--	13	0	1.12	.099
JAN										
04...	14	20	20	0	10	--	10	0	.309	.191
18...	14	110	20	0	20	--	9.0	0	1.83	.579
31...	10	20	20	0	10	--	4.5	1	1.13	.815
FEB										
15...	35	10	10	1	10	--	.7	1	.519	.359
MAR										
01...	14	30	30	2	0	--	2.4	0	.774	.070
15...	26	370	60	1	--	10	6.4	0	--	--
29...	16	50	--	1	10	--	3.2	1	1.88	.700
APR										
12...	15	30	--	3	10	--	5.3	0	5.03	.000
26...	13	30	--	0	10	--	7.4	4	14.3	1.51
MAY										
09...	11	70	--	0	10	--	5.1	--	26.0	2.79
24...	9	50	20	0	--	0	4.9	0	3.30	.000
JUN										
07...	12	40	--	0	20	--	5.2	0	5.01	.278
21...	14	50	--	0	20	--	12	0	--	--
JUL										
12...	--	--	--	--	--	--	9.2	0	3.11	3.11
26...	27	50	--	0	20	--	11	0	35.5	.646
AUG										
16...	22	90	30	1	--	10	4.0	0	10.2	.713
30...	30	90	--	0	60	--	6.0	0	23.6	.726
SEP										
13...	25	110	--	0	40	--	2.9	0	45.2	.161
27...	20	100	--	0	10	--	2.7	0	15.4	.175

01642500 LINGANORE CREEK NEAR FREDERICK, MD

LOCATION.--Lat 39°24'55", long 77°20'00", Frederick County, Hydrologic Unit 02070009, on left bank 2.4 mi (3.9 km) upstream from mouth and 4 mi (6.4 km) east of Frederick.

DRAINAGE AREA.--82.3 mi^2 (213.2 km^2).

PERIOD OF RECORD.--November 1931 to March 1932, September 1934 to current year.

REVISED RECORDS.--WSP 891: 1938-39. WSP 1432: 1934, 1936, 1937(M).

GAGE.--Water-stage recorder. Concrete control since Sept. 23, 1946. Altitude of gage is 270 ft (82 m), from topographic map. Prior to Mar. 27, 1932, nonrecording gage at Frederick pumping station, 1.5 mi (2.4 km) downstream at datum about 20 ft (6.1 m) lower. Sept. 12, 1934, to Sept. 25, 1946, nonrecording gage at present site and datum.

REMARKS.--Records good except those for February, which are fair. Occasional regulation by Linganore Reservoir 0.5 mi (0.8 km) upstream beginning September 1972, total capacity, 883,200,000 gal (3.343 hm^3). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--44 years, 85.4 ft^3/s (2.418 m^3/s), 14.09 in/yr (358 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,100 ft^3/s (569 m^3/s) June 22, 1972, gage height, 19.46 ft (5.931 m), from high-water mark in well, from rating curve extended above 1,500 ft^3/s (42.5 m^3/s) on basis of slope-area measurement at gage height 10.01 ft (3.051 m) and contracted-opening measurement at gage height 19.46 ft (5.931 m) at site 2.6 mi (4.2 km) upstream, adjusted for flow from intervening area; minimum discharge, 1.4 ft^3/s (0.040 m^3/s) Nov. 24, 1972, gage height, 1.10 ft (0.335 m), result of regulation.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,400 ft^3/s (39 m^3/s) and maximum (*):

Date	Time	Discharge		Gage height		Date	Time	Discharge		Gage height	
		(ft^3/s)	(m^3/s)	(ft)	(m)			(ft^3/s)	(m^3/s)	(ft)	(m)
Dec. 18	1500	2460	69.7	8.19	2.496	Jan. 26	1115	*5570	158	12.21	3.722
Jan. 9	0730	1640	46.4	6.73	2.051	Mar. 14	2015	1600	45.3	6.66	2.030

Minimum discharge, 9.3 ft^3/s (0.26 m^3/s) Jan. 4, 5, 6; minimum daily, 9.3 ft^3/s (0.26 m^3/s) Jan. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	22	294	95	168	51	172	143	108	49	47	306
2	13	22	178	95	166	51	165	74	105	67	44	61
3	13	24	163	94	165	51	165	44	103	404	39	41
4	11	50	126	59	165	52	165	22	50	205	36	36
5	11	41	40	9.3	160	52	164	22	29	100	46	32
6	12	34	59	38	160	68	163	22	49	73	46	30
7	13	136	77	55	160	78	163	22	65	64	40	28
8	13	158	77	58	78	97	161	22	73	58	37	27
9	24	81	77	662	74	109	160	23	72	56	33	22
10	31	60	75	184	70	109	159	27	65	51	39	22
11	18	73	75	140	68	111	142	60	60	50	36	24
12	15	52	75	207	66	114	124	63	58	47	46	26
13	13	43	75	305	64	155	124	90	85	45	37	32
14	15	38	75	300	62	726	123	456	84	44	33	26
15	53	36	76	291	60	561	85	601	75	46	32	25
16	37	34	76	261	58	371	26	729	69	45	30	25
17	46	37	76	201	58	347	26	468	48	50	28	24
18	33	42	1150	106	56	342	26	308	28	44	25	23
19	23	35	543	106	56	334	26	241	48	41	24	25
20	20	31	347	106	54	218	28	201	47	39	22	23
21	19	33	644	106	54	156	27	175	54	37	21	22
22	18	37	421	106	52	156	28	161	70	36	20	22
23	17	160	400	106	52	156	58	159	56	35	20	21
24	16	128	302	104	50	154	74	159	50	33	20	20
25	16	107	174	657	50	152	72	108	49	42	20	20
26	26	105	172	3410	48	219	74	54	46	42	20	18
27	130	104	170	575	48	541	120	96	49	39	34	18
28	58	103	168	293	50	320	173	106	73	41	203	18
29	36	103	170	229	---	247	170	107	54	37	46	17
30	28	89	142	193	---	206	169	109	69	34	32	17
31	24	---	95	172	---	184	---	110	---	39	46	---
TOTAL	812	2018	6592	9343.3	2372	6488	3332	4982	1891	1993	1202	1051
MEAN	26.2	67.3	213	301	84.7	209	111	161	63.0	64.3	38.8	35.0
MAX	130	160	1150	3410	168	726	173	729	108	404	203	306
MIN	10	22	40	9.3	48	51	26	22	28	33	20	17
CFSM	.32	.82	2.59	3.66	1.03	2.54	1.35	1.96	.77	.78	.47	.43
IN.	.37	.91	2.98	4.22	1.07	2.93	1.51	2.25	.85	.90	.54	.48

CAL YR 1977 TOTAL 27150.3 MEAN 74.4 MAX 1540 MIN 5.6 CFSM .90 IN 12.27
WTR YR 1978 TOTAL 42076.3 MEAN 115 MAX 3410 MIN 9.3 CFSM 1.40 IN 19.02

01643000 MONOCACY RIVER AT JUG BRIDGE NEAR FREDERICK, MD

LOCATION.--Lat 39°24'13", long 77°21'58", Frederick County, Hydrologic Unit 02070009, on right bank 0.2 mi (0.3 km) upstream from Jug Bridge on U.S. Highway 40, 0.4 mi (0.6 km) downstream from Linganore Creek, 2 mi (3.2 km) east of Frederick, and 16.9 mi (27.2 km) upstream from mouth.

DRAINAGE AREA.--817 mi² (2,116 km²).

PERIOD OF RECORD.--October 1929 to current year. Monthly discharge only for October, November 1929, published in WSP 1302.

REVISED RECORDS.--WSP 711: 1930.

GAGE.--Water-stage recorder. Nonrecording gage at site 0.2 mile (0.3 km) downstream. Datum of gage is 231.92 ft (70.689 m) Corps of Engineers datum.

REMARKS.--Records good. Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--49 years, 921 ft³/s (26.08 m³/s), 15.31 in/yr (389 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 81,600 ft³/s (2,310 m³/s) June 23, 1972, gage height, 35.9 ft (10.94 m), from floodmark; minimum daily, 19 ft³/s (0.54 m³/s) Sept. 7-13, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1889 reached a stage of 30 ft (9.1 m), from floodmarks, discharge, 56,000 ft³/s (1,590 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,800 ft³/s (250 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 1	1830	9790	277	10.98	3.347	Mar. 20	0830	9280	263	10.65	3.246
Dec. 19	0600	15200	430	14.10	4.298	Mar. 27	1100	18300	518	15.72	4.791
Dec. 22	0100	11400	323	11.96	3.645	May 14	1830	9100	258	10.53	3.210
Jan. 9	2200	15000	425	14.03	4.276	May 16	1730	12200	346	12.44	3.792
Jan. 27	0200	*29100	824	20.33	6.197	July 4	0330	8930	253	10.42	3.176
Mar. 15	1130	14700	416	13.85	4.221						

Minimum discharge, 94 ft³/s (2.66 m³/s) Oct. 5, 6, gage height, 1.19 ft (0.363 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	124	231	6500	918	1520	555	1810	572	698	455	271	916
2	119	216	3700	870	1400	508	1560	487	639	432	269	558
3	111	220	1840	745	1260	505	1370	445	599	2640	266	282
4	104	793	1450	632	1150	491	1330	416	586	6020	238	222
5	96	1070	1210	600	1020	475	1380	527	528	1730	248	194
6	97	618	2870	657	920	491	1250	605	491	1010	254	175
7	97	2510	1620	654	835	500	1190	535	477	750	273	165
8	101	5310	1010	794	950	515	1170	482	483	616	274	162
9	147	2510	845	10100	910	515	1010	733	581	644	350	155
10	202	1360	710	5320	864	525	936	891	607	628	294	148
11	244	3570	569	1640	824	696	888	668	455	498	234	141
12	180	1680	601	1460	780	1330	871	588	416	433	706	158
13	136	1040	630	1360	734	2220	825	644	475	383	335	215
14	125	822	690	1260	691	6010	757	6200	468	357	256	232
15	199	670	2050	1180	674	13200	676	7740	430	350	227	186
16	435	601	1460	1090	642	8980	579	10600	380	420	214	173
17	480	575	1060	1030	630	3860	564	7450	398	393	196	161
18	432	757	6560	2070	620	3270	548	4700	433	358	176	169
19	340	668	12100	1880	605	3610	674	3290	399	312	166	163
20	247	507	5740	1260	552	6900	1010	2450	360	285	158	154
21	219	456	7410	1150	561	4850	1010	1820	355	264	145	147
22	209	489	7370	1040	547	4960	750	1490	481	251	134	144
23	186	1830	3150	885	486	3440	675	1300	635	242	131	141
24	170	2240	2410	785	521	2850	649	1230	409	230	129	135
25	157	1210	2270	2930	540	2450	624	1160	342	234	130	130
26	187	1770	2280	20600	589	4800	603	968	310	238	132	126
27	624	1630	1370	20600	599	15000	615	870	327	237	165	123
28	867	984	1200	4570	569	6130	657	827	411	243	652	120
29	468	891	1080	2850	---	3470	632	789	514	240	478	118
30	328	985	1020	2170	---	2620	613	753	459	238	265	115
31	264	---	983	1710	---	2110	---	710	---	233	255	---
TOTAL	7695	38213	83758	94810	21993	107836	27226	61940	14146	21364	8021	6028
MEAN	248	1274	2702	3058	785	3479	908	1998	472	689	259	201
MAX	867	5310	12100	20600	1520	15000	1810	10600	698	6020	706	916
MIN	96	216	569	600	486	475	548	416	310	230	129	115
CFSM	.30	1.56	3.31	3.74	.96	4.26	1.11	2.45	.58	.84	.32	.25
IN.	.35	1.74	3.81	4.32	1.00	4.91	1.24	2.82	.64	.97	.37	.27

CAL YR 1977 TOTAL 327920 MEAN 898 MAX 15100 MIN 86 CFSM 1.10 IN 14.93
WTR YR 1978 TOTAL 493030 MEAN 1351 MAX 20600 MIN 96 CFSM 1.65 IN 22.45

01643020 MONOCACY RIVER AT REICH'S FORD BRIDGE NEAR FREDERICK, MD

LOCATION.--Lat 39°23'16", long 77°22'40", Frederick County, Hydrologic Unit 02070009, at Reich's Ford Bridge, 1.1 mi (1.8 km) downstream from U.S. Highway 40, 1.2 mi (1.9 km) downstream from gaging station, 2 mi (3.2 km) southeast of Frederick, and 15.0 mi (25.1 km), upstream from mouth.

PERIOD OF RECORD.--Water years 1961 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1960 to current year.
SUSPENDED SEDIMENT DISCHARGE: October 1960 to current year.

REMARKS.--Water temperatures are measured daily in field at time of sample. Water-discharge records for Monocacy River at Jug Bridge near Frederick (station 01643000) are used for computation of sediment loads. Prior to 1970, published as Monocacy River at Jug Bridge near Frederick (station 01643000).

EXTREMES FOR PERIOD OF DAILY RECORD.-
WATER TEMPERATURES (water years 1961-72, 1975, 1977): Maximum daily, 31.0°C Aug. 1, 4, 1975, many days during July 1977; minimum daily, 0.0°C on many days during winter periods.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,000 mg/L July 10, 1970; minimum daily mean, 1 mg/L on many days in 1961-67, 1970, and 1972.
SEDIMENT LOADS: Maximum daily, 134,000 tons (122,000 tonnes) June 22, 1972; minimum daily, less than 0.50 ton (0.45 tonne) on many days in 1961-67.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,230 mg/L Jan. 9; minimum daily mean, 9 mg/L Mar. 9.
SEDIMENT LOADS: Maximum daily, 42,800 tons (38,800 tonnes) Jan. 9; minimum daily, 9.3 tons (8.4 tonnes) Aug. 26.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)
OCT											
12...	1245	174	293	7.8	14.0	13.0	10	8.9	15	3.4	140
26...	1245	164	306	7.9	12.0	12.0	15	8.5	10	2.0	52
NOV											
09...	1300	2180	180	7.4	16.5	12.5	30	8.9	30	3.4	K14000
30...	1330	939	234	7.6	3.0	3.0	6	12.2	13	1.6	1800
DEC											
19...	1345	11900	158	7.1	3.5	1.0	65	12.2	33	5.6	K17000
JAN											
04...	1300	628	225	--	-1.5	1.0	4	13.1	6	.5	K3
18...	1030	1760	243	7.3	.5	1.0	30	14.0	18	1.7	1500
31...	1315	1660	185	7.1	-2.0	1.0	4	13.2	7	1.4	27
FEB											
15...	1330	633	260	7.3	.5	2.0	4	13.4	4	1.0	<1
MAR											
01...	1315	580	300	7.4	4.5	3.0	7	12.3	14	4.2	28
15...	1300	14500	140	6.8	10.5	1.0	250	13.0	55	>8.7	2800
29...	1245	3390	180	7.2	15.5	9.5	25	10.6	10	1.2	470
APR											
12...	1230	874	215	8.4	19.5	14.5	8	10.8	20	2.0	41
26...	1230	602	230	8.4	11.5	12.5	4	10.4	10	1.2	76
MAY											
09...	1300	779	240	7.4	22.0	15.0	15	8.6	15	5.6	K14000
24...	1245	1220	200	7.4	15.5	17.0	9	8.4	15	2.0	670
JUN											
07...	1315	476	235	7.5	22.0	20.5	2	7.7	15	1.8	290
21...	1215	329	255	7.4	22.0	24.0	6	6.5	15	2.6	1700
JUL											
12...	1315	430	270	--	25.0	24.0	10	7.5	10	3.0	200
26...	1230	235	295	8.1	25.0	24.0	3	7.0	23	3.1	260
AUG											
16...	1230	217	305	7.7	31.5	28.0	10	5.8	16	3.0	930
30...	1230	272	280	8.3	26.5	25.5	10	7.5	29	7.2	K8000
SEP											
13...	1200	177	180	8.1	17.0	22.0	60	5.8	20	6.7	K35000
27...	1315	124	355	7.9	22.0	18.0	15	--	22	3.8	2500

01643020 MONOCACY RIVER AT REICH'S FORD BRIDGE NEAR FREDERICK, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT											
12...	320	120	31	35	38	6.4	6.4	9.5	10	4.0	4.2
26...	240	130	37	37	39	6.7	7.3	10	11	3.6	4.1
NOV											
09...	K32000	68	28	19	19	5.8	4.9	5.8	5.0	4.8	3.7
30...	10000	88	41	24	26	5.7	5.7	6.6	6.9	2.7	2.9
DEC											
19...	83000	53	19	13	15	4.3	3.7	3.9	4.3	3.3	3.3
JAN											
04...	390	85	33	22	25	4.9	5.5	5.6	6.3	1.7	2.0
18...	4800	74	37	20	22	4.7	4.6	14	15	2.0	2.2
31...	160	68	34	--	20	--	4.4	6.0	6.1	--	2.0
FEB											
15...	170	90	33	24	27	5.1	5.4	6.8	8.5	1.6	1.8
MAR											
01...	1100	100	35	27	31	6.1	6.2	9.7	10	2.8	3.3
15...	K49000	39	16	10	11	5.6	2.7	4.0	4.7	3.3	3.3
29...	2100	60	--	--	17	--	4.2	--	5.4	--	2.3
APR											
12...	37	78	--	--	24	--	4.4	--	6.2	--	1.9
26...	280	88	--	--	27	--	5.0	--	6.4	--	1.7
MAY											
09...	8800	94	--	--	29	--	5.3	--	7.0	--	2.5
24...	860	80	21	--	24	--	4.8	--	5.3	--	1.8
JUN											
07...	330	98	--	--	30	--	5.7	--	6.5	--	2.2
21...	370	100	--	--	31	--	5.5	--	7.0	--	2.4
JUL											
12...	89	100	--	--	32	--	6.0	--	7.6	--	2.5
26...	110	120	--	--	39	--	6.6	--	8.2	--	3.1
AUG											
16...	270	120	32	--	38	--	6.6	--	8.6	--	3.7
30...	2200	110	--	--	33	--	5.9	--	9.2	--	4.8
SEP											
13...	K26000	100	100	--	34	--	4.8	--	11	--	3.9
27...	160	140	--	--	43	--	7.4	--	12	--	4.1

DATE	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
OCT											
12...	110	90	20	16	--	173	--	28	2.2	.08	.23
26...	110	90	23	17	--	187	--	12	2.6	.07	.35
NOV											
09...	48	39	24	9.0	--	107	--	125	1.9	.02	.10
30...	58	48	25	11	--	130	--	9	2.6	.02	.16
DEC											
19...	41	34	17	7.8	--	85	--	180	2.0	.03	.20
JAN											
04...	63	52	18	11	--	134	--	4	3.2	.01	.20
18...	45	37	16	26	--	134	--	56	.57	.01	.17
31...	42	34	17	11	--	107	--	13	2.3	.01	.11
FEB											
15...	69	57	19	15	--	132	--	5	3.4	.02	.20
MAR											
01...	83	68	19	20	6.9	162	137	5	3.0	.04	.33
15...	28	23	13	9.0	3.7	77	62	425	1.5	.03	.61
29...	--	--	--	--	7.7	85	--	32	2.2	.02	.13
APR											
12...	--	--	--	--	2.7	112	--	10	.48	.02	.04
26...	--	--	--	--	1.2	121	--	9	1.6	.03	.14
MAY											
09...	--	--	--	--	4.1	144	--	18	1.8	.05	.22
24...	72	59	17	9.6	7.6	85	106	39	1.9	.03	.09
JUN											
07...	--	--	--	--	5.9	141	--	17	2.1	.04	.13
21...	--	--	--	--	5.7	140	--	9	1.9	.05	.13
JUL											
12...	--	--	--	--	7.9	161	--	13	2.8	.04	.10
26...	--	--	--	--	3.8	175	--	8	1.7	.07	.16
AUG											
16...	110	90	17	16	7.6	168	152	31	2.2	.10	.19
30...	--	--	--	--	4.1	170	--	67	1.4	.05	.08
SEP											
13...	--	--	--	--	3.7	179	--	27	1.3	.08	.28
27...	--	--	--	--	5.4	203	--	27	2.2	.12	.50

01643020 MONOCACY RIVER AT REICH'S FORD BRIDGE NEAR FREDERICK, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
OCT										
12...	.54	.42	430	--	0	0	<10	5	1200	50
26...	.52	.44	520	--	0	0	<10	4	900	70
NOV										
09...	.73	.28	1700	--	0	0	<10	7	2800	100
30...	.68	.14	140	--	2	1	10	4	800	40
DEC										
19...	.90	.29	3000	--	2	0	30	9	1000	100
JAN										
04...	.47	.10	150	--	1	1	10	4	330	30
18...	.64	.12	560	--	3	1	<10	7	1400	30
31...	.31	.07	70	--	0	1	<10	5	570	30
FEB										
15...	.13	.10	120	--	0	5	10	3	190	20
MAR										
01...	.61	.20	150	--	0	1	<10	2	240	50
15...	1.7	.41	10000	60	1	0	20	18	15000	360
29...	.44	.11	770	--	--	2	<10	3	1400	--
APR										
12...	--	.10	300	--	--	2	<10	4	390	--
26...	.43	.11	210	--	--	3	10	2	230	--
MAY										
09...	.59	.18	300	--	--	1	<10	3	570	--
24...	.54	.13	530	30	--	1	20	0	1000	--
JUN										
07...	.49	.14	300	--	--	4	<10	5	460	--
21...	.62	.20	230	--	--	5	10	4	260	--
JUL										
12...	.66	.17	--	--	0	--	--	--	--	--
26...	.46	.19	110	--	--	0	10	4	250	--
AUG										
16...	.65	.32	230	20	--	5	20	4	1100	30
30...	1.0	.33	890	--	2	4	<10	4	1500	--
SEP										
13...	1.2	.46	860	--	1	3	<10	5	1500	--
27...	.80	.51	270	--	1	5	10	4	520	--

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	OIL AND GREASE (MG/L)	CHLORO-PHYLL A PHYTO-PLANK-TON, UNCORR. (UG/L)	CHLORO-PHYLL B PHYTO-PLANK-TON, UNCORR. (UG/L)
OCT										
12...	7	90	40	0	0	--	5.2	0	5.49	.780
26...	12	100	50	0	10	--	9.4	0	3.05	.215
NOV										
09...	12	170	20	0	20	--	8.0	--	--	--
30...	13	40	20	0	10	--	9.3	20	1.74	.445
DEC										
19...	14	190	40	0	30	--	14	0	3.03	.000
JAN										
04...	20	70	60	0	10	--	13	0	.520	.322
18...	23	100	30	0	20	--	8.1	0	1.16	.605
31...	5	30	20	0	10	--	6.3	1	1.11	.988
FEB										
15...	12	40	30	1	10	--	4.2	1	.691	.763
MAR										
01...	14	50	40	3	0	--	4.1	1	1.04	.681
15...	12	490	60	1	--	0	7.9	0	14.3	5.38
29...	20	60	--	1	10	--	3.0	1	1.79	.317
APR										
12...	12	60	--	1	10	--	8.7	0	2.61	.000
26...	30	40	--	0	10	--	6.3	11	8.24	.420
MAY										
09...	24	60	--	0	10	--	5.9	1	12.4	3.00
24...	14	70	20	0	--	10	7.2	0	4.20	.000
JUN										
07...	22	70	--	0	20	--	4.7	0	7.06	.000
21...	27	60	--	0	20	--	15	0	6.19	.636
JUL										
12...	--	--	--	--	--	--	11	0	3.28	.695
26...	33	60	--	0	20	--	13	0	16.5	1.27
AUG										
16...	36	90	40	2	--	10	4.0	0	9.33	.792
30...	34	170	--	0	10	--	3.7	0	44.1	.260
SEP										
13...	46	200	--	0	30	--	6.2	0	52.4	.000
27...	30	140	--	1	20	--	3.9	0	6.00	.370

01643020 MONOCACY RIVER AT REICH'S FORD BRIDGE NEAR FREDERICK, MD--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM
NOV								
08...	2000	5030	13.0	364	4940	45	62	78
JAN								
09...	1710	14400	1.0	1380	53700	49	66	82

DATE	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
NOV							
08...	87	94	98	99	100	--	--
JAN							
09...	93	94	96	97	98	99	100

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	13.0	---	2.0	---	4.0	12.5	16.0	26.0	---	25.5	25.0
2	19.0	15.0	7.0	2.0	2.0	3.5	---	17.0	25.0	---	---	25.5
3	16.0	16.0	6.0	1.0	1.0	---	10.0	---	---	---	27.0	25.0
4	18.0	18.0	7.0	2.0	1.0	3.0	12.0	---	22.0	---	27.0	---
5	---	18.0	4.5	2.5	1.0	3.0	14.0	---	22.0	22.5	23.0	26.0
6	17.0	---	4.0	---	.0	2.5	12.0	---	22.0	24.0	---	26.0
7	17.0	15.0	2.0	---	---	4.0	14.5	---	23.0	24.5	27.0	26.5
8	14.0	13.0	2.0	5.0	---	---	14.5	---	22.0	26.0	29.5	26.0
9	18.0	15.0	---	1.0	2.0	3.5	---	16.0	22.0	27.0	---	25.0
10	15.0	---	1.0	---	2.0	5.5	16.0	16.5	23.5	27.0	---	23.0
11	15.0	8.0	1.0	---	1.0	7.5	---	---	---	27.0	---	25.0
12	14.0	9.0	2.0	1.5	1.0	5.0	16.5	16.0	25.5	24.0	24.0	26.0
13	14.0	7.0	2.0	---	1.0	5.0	16.0	17.0	23.0	25.0	25.0	20.5
14	11.0	7.0	2.0	2.5	---	5.0	15.0	18.5	22.0	26.0	27.0	20.5
15	14.0	8.0	4.0	1.5	3.0	3.0	14.5	13.5	---	26.0	28.0	23.0
16	---	---	---	1.0	4.0	5.0	14.0	13.0	21.5	---	27.5	20.0
17	9.5	10.0	4.0	---	4.0	---	16.0	---	---	26.5	---	22.5
18	---	9.0	---	1.0	3.0	5.0	14.0	14.0	---	27.0	24.0	27.0
19	11.5	9.5	3.0	---	3.0	7.0	---	---	27.0	26.5	28.0	28.0
20	13.5	---	3.0	---	3.0	5.0	12.0	---	27.0	22.0	26.5	22.5
21	14.0	9.0	4.0	---	3.0	8.0	11.5	21.0	---	30.0	27.0	26.0
22	16.5	7.0	4.0	---	---	9.0	13.0	19.0	27.0	30.0	---	---
23	13.0	7.0	---	3.0	---	9.0	13.0	18.5	25.0	---	---	23.5
24	13.0	9.0	6.0	2.0	3.5	9.0	16.0	---	26.0	27.0	26.0	---
25	14.0	7.0	5.0	---	4.5	---	---	21.0	26.0	25.0	27.0	22.0
26	14.5	6.0	2.0	.0	4.0	4.5	13.0	22.0	24.5	26.0	28.0	20.0
27	17.5	4.0	2.0	---	---	6.0	---	21.0	---	29.0	---	21.0
28	---	5.0	---	---	4.0	10.0	14.0	---	---	28.0	26.0	20.5
29	15.5	4.0	3.0	---	---	10.0	12.5	23.0	---	25.0	26.0	19.0
30	---	4.0	4.0	---	---	10.0	---	24.0	---	24.0	---	19.0
31	13.0	---	4.0	---	---	10.5	---	23.0	---	26.0	25.0	---

01643020 MONOCACY RIVER AT REICH'S FORD BRIDGE NEAR FREDERICK, MD--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	110	37	44	27	132	2720	13	32	40	167	16	25
2	148	48	45	26	100	1090	13	31	35	132	17	23
3	206	62	44	26	48	238	10	20	66	225	17	25
4	176	49	133	299	29	114	30	51	46	143	18	24
5	120	31	123	355	24	78	25	40	21	58	12	15
6	69	18	105	175	129	1040	19	34	27	75	14	19
7	70	18	392	3250	76	348	18	32	30	68	16	22
8	78	21	601	8560	82	224	24	60	28	73	13	19
9	89	35	189	1440	67	167	1230	42800	26	67	9	13
10	79	43	91	334	31	64	603	12800	18	42	15	21
11	79	46	138	1360	15	23	200	886	20	44	16	30
12	59	23	83	389	26	42	142	587	15	32	49	176
13	39	13	46	129	19	34	90	386	16	32	101	632
14	55	19	34	75	19	36	55	248	27	50	407	7320
15	55	30	29	52	176	1070	45	182	38	69	456	16300
16	39	46	27	44	126	511	52	171	22	38	189	4620
17	69	92	31	48	36	103	45	140	17	30	116	1220
18	63	73	61	125	452	11500	132	890	12	21	55	486
19	65	60	40	72	418	15300	68	355	13	22	67	689
20	71	47	29	40	100	1590	58	204	12	18	418	8450
21	62	37	27	33	138	3320	50	155	14	21	139	1800
22	47	27	26	34	190	4580	46	132	18	27	120	1600
23	46	23	122	734	43	366	40	100	20	26	70	650
24	46	21	113	750	34	221	32	72	20	28	42	323
25	49	21	50	163	62	397	268	3220	17	25	34	225
26	66	33	52	262	39	255	735	39000	16	29	236	4600
27	99	178	68	318	13	48	229	13800	17	27	601	25300
28	127	297	34	90	13	42	136	1740	15	23	155	2650
29	97	123	30	72	14	41	95	736	---	---	100	937
30	74	66	28	74	17	47	70	416	---	---	58	410
31	54	38	---	---	18	48	52	250	---	---	40	228
TOTAL	---	1675	---	19356	---	45657	---	119570	---	1612	---	78852
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	42	205	23	36	30	57	45	55	34	25	239	623
2	40	168	20	26	41	71	45	52	30	22	155	247
3	34	126	21	25	39	63	174	1930	23	17	98	75
4	24	86	21	24	29	46	308	5860	26	17	75	45
5	23	86	19	27	24	34	131	638	43	29	60	31
6	20	67	25	41	26	34	77	210	42	29	45	21
7	22	71	23	33	24	31	48	97	34	25	41	18
8	30	95	27	35	19	25	48	80	39	29	43	19
9	31	85	49	97	25	39	43	75	48	45	43	18
10	30	76	46	111	39	64	55	93	40	32	84	34
11	29	70	36	65	34	42	43	58	36	23	68	26
12	28	66	29	46	23	26	41	48	237	546	48	20
13	19	42	34	59	25	32	40	41	67	61	44	26
14	19	39	249	4870	25	32	39	38	35	24	40	25
15	21	38	190	4160	22	26	33	31	33	20	43	22
16	14	22	138	4140	20	21	48	54	33	19	46	21
17	14	21	103	2090	20	21	48	51	34	18	51	22
18	17	25	76	964	21	25	30	29	32	15	47	21
19	21	36	59	524	21	23	37	31	32	14	42	18
20	25	68	50	331	21	20	30	23	30	13	50	21
21	25	68	47	231	21	20	23	16	33	13	52	21
22	28	57	34	137	29	38	20	14	33	12	57	22
23	22	40	35	123	34	58	20	13	32	11	61	23
24	22	39	37	123	43	47	20	12	30	10	55	20
25	20	34	35	110	32	30	22	14	29	10	45	16
26	18	29	36	94	52	44	22	14	26	9.3	45	15
27	18	30	43	101	40	35	23	15	66	39	36	12
28	22	39	39	87	45	50	25	16	172	314	43	14
29	27	46	31	66	45	62	25	16	116	162	42	13
30	26	43	39	79	55	68	26	17	62	44	35	11
31	---	---	32	61	---	---	31	20	121	92	---	---
TOTAL	---	1919	---	18916	---	1184	---	9661	---	1739.3	---	1520

TOTAL LOAD FOR YEAR: 301661.3 TONS.

01643500 BENNETT CREEK AT PARK MILLS, MD

LOCATION.--Lat 39°17'40", long 77°24'30", Frederick County, Hydrologic Unit 02070009, on left bank 75 ft (23 m) downstream from highway bridge, 0.2 mi (0.3 km) south of Park Mills, 1.8 mi (2.9 km) upstream from mouth, and 3.7 mi (6.0 km) southwest of Urbana.

DRAINAGE AREA.--62.8 mi^2 (162.7 km^2).

PERIOD OF RECORD.--July 1948 to September 1958. Annual maximum, water years 1960-66. August 1966 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 240 ft (73.2 m), from topographic map.

REMARKS.--Records good except those for January and February, which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--22 years (water years 1949-58, 1967-78), 70.1 ft^3/s (1.985 m^3/s), 15.16 in/yr (385 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,200 ft^3/s (912 m^3/s) June 21, 1972, gage height, 22.1 ft (6.74 m), from floodmark, from rating curve extended above 2,700 ft^3/s (76.5 m^3/s) on basis of contracted-opening measurements at gage heights 11.15 ft (3.399 m), 14.33 ft (4.368 m), and 22.1 ft (6.74 m); minimum, 0.30 ft^3/s (0.008 m^3/s) Sept. 8, 1966, gage height, 0.80 ft (0.244 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft^3/s (34 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 18	1430	1670	47.3	5.76	1.756	May 14	1745	1250	35.4	4.78	1.457
Jan. 9	0245	1910	54.1	6.29	1.917	May 15	1615	1850	52.4	6.17	1.881
Jan. 18	0215	1980	56.1	6.42	1.957	May 16	0615	1410	39.9	5.16	1.573
Jan. 25	1345	1550	43.9	5.50	1.676	May 16	1630	1370	38.8	5.08	1.548
Jan. 26	0945	*3860	109	8.75	2.667	July 3	1430	1290	36.2	4.86	1.481

Minimum discharge, 7.4 ft^3/s (0.21 m^3/s) Oct. 1, gage height, 1.43 ft (0.436 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	16	347	65	140	61	97	46	72	41	173	75
2	17	17	95	63	120	55	84	45	64	85	44	28
3	11	18	71	57	100	55	78	44	67	512	37	25
4	8.3	60	61	54	90	55	77	51	67	133	35	23
5	8.1	33	70	55	80	52	76	64	61	76	44	21
6	9.4	27	73	54	76	52	71	52	57	60	36	20
7	11	94	55	55	74	50	73	48	58	53	59	20
8	9.5	90	46	89	72	48	66	49	59	50	49	19
9	23	51	47	759	70	48	63	179	58	49	34	19
10	19	44	36	80	68	54	62	92	52	46	38	17
11	12	57	36	74	66	173	63	63	50	44	40	17
12	11	40	34	72	66	182	65	57	49	40	46	19
13	9.9	34	40	70	64	255	59	172	80	38	35	46
14	11	30	48	179	62	399	55	648	53	39	34	23
15	35	29	72	91	60	243	52	807	50	41	31	22
16	19	27	51	78	58	152	51	984	48	39	29	22
17	39	28	46	124	56	134	51	474	50	40	28	22
18	22	28	801	720	60	119	51	271	50	36	25	20
19	16	25	365	117	58	114	71	186	46	33	24	20
20	15	23	244	100	56	102	84	149	44	32	23	19
21	12	24	487	92	58	94	63	130	100	31	21	19
22	12	26	222	84	53	89	58	114	90	30	21	19
23	11	76	150	78	52	82	54	108	50	29	20	18
24	11	47	123	70	54	76	54	108	45	27	20	17
25	11	40	117	845	60	76	51	97	43	31	20	16
26	23	81	93	1900	80	478	51	86	43	31	20	15
27	77	49	83	451	74	359	50	83	47	29	23	15
28	33	42	78	287	63	214	49	81	66	31	33	15
29	23	47	74	225	---	162	47	76	45	27	23	14
30	19	69	70	195	---	135	47	72	52	26	20	14
31	17	---	68	170	---	116	---	70	---	90	39	---
TOTAL	562.8	1272	4203	7353	1990	4284	1873	5506	1716	1869	1124	659
MEAN	18.2	42.4	136	237	71.1	138	62.4	178	57.2	60.3	36.3	22.0
MAX	77	94	801	1900	140	478	97	984	100	512	173	75
MIN	7.6	16	34	54	52	48	47	44	43	26	20	14
CFSM	.29	.68	2.17	3.77	1.13	2.20	.99	2.83	.91	.96	.58	.35
IN.	.33	.75	2.49	4.36	1.18	2.54	1.11	3.26	1.02	1.11	.67	.39

CAL YR 1977 TOTAL 18352.9 MEAN 50.3 MAX 801 MIN 6.1 CFSM .80 IN 10.87
WTR YR 1978 TOTAL 32411.8 MEAN 88.8 MAX 1900 MIN 7.6 CFSM 1.41 IN 19.20

01645000 SENECA CREEK AT DAWSONVILLE, MD

LOCATION.--Lat 39°07'41", long 77°20'13", Montgomery County, Hydrologic Unit 02070008, on right bank 60 ft (18 m) downstream from bridge on State Highway 28, 150 ft (46 m) downstream from mouth of Great Seneca Creek, 0.5 mi (0.8 km) east of Dawsonville, and 5.8 mi (9.3 km) upstream from mouth.
DRAINAGE AREA.--101 mi^2 (262 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1930 to current year.
REVISED RECORDS.--WSP 726: Drainage area. WSP 1232: 1930. WSP 1272: 1933. WSP 1432: 1934-35(M), 1941(M). WDR MD-DE-74-1: 1970(M).
GAGE.--Water-stage recorder. Concrete control since Mar. 3, 1934. Datum of gage is 214.15 ft (65.273 m) National Geodetic Vertical Datum of 1929. Sept. 26 to Nov. 9, 1930, chain gage, and Nov. 10, 1930, to Apr. 6, 1934, water-stage recorder, at highway bridge 60 ft (18 m) upstream at same datum.
REMARKS.--Water-discharge records good. Small diversion at times for irrigation above station.
AVERAGE DISCHARGE.--48 years, 99.5 ft^3/s (2.818 m^3/s), 13.38 in/yr (340 mm/yr).
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,100 ft^3/s (739 m^3/s) June 22, 1972, gage height, 16.4 ft (5.00 m), from high-water mark in gage house, from rating curve extended above 3,000 ft^3/s (850 m^3/s) on basis of contracted-opening and flow-over-road measurement at gage height 12.17 ft (3.709 m) at gage; and contracted-opening and flow-over-road measurement at gage height 16.32 ft (4.974 m) at site 5.0 mi (8.0 km) downstream, adjusted for flow from intervening area; minimum observed, 1.7 ft^3/s (0.048 m^3/s) Sept. 28, 29, 1930, gage height, 0.56 ft (0.171 m).
EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,300 ft^3/s (36 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 18	1515	3200	90.6	8.05	2.454	May 15	1500	1610	45.6	6.32	1.926
Jan. 9	0645	1690	47.9	6.44	1.963	May 16	1515	2000	56.6	6.92	2.109
Jan. 26	1130	*7850	222	9.96	3.036	June 22	0715	3800	108	8.44	2.572
Mar. 26	1815	2040	57.8	6.98	2.128	July 3	1630	1640	46.4	6.36	1.938
May 14	1900	1320	37.4	5.62	1.713						

Minimum discharge, 12 ft^3/s (0.34 m^3/s) Oct. 1, 5, gage height, 1.71 ft (0.521 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	30	436	94	190	93	182	74	112	74	412	79
2	15	31	133	91	175	84	166	72	92	130	114	57
3	19	33	99	79	160	86	147	71	96	745	104	52
4	13	169	85	76	145	84	134	103	100	331	108	50
5	12	63	87	72	130	82	130	178	87	151	151	46
6	13	51	95	72	117	80	120	108	85	122	108	42
7	16	287	72	73	114	77	128	93	83	109	112	40
8	15	229	63	137	110	76	111	93	111	102	119	40
9	54	100	65	840	105	78	103	159	102	98	76	40
10	41	84	60	135	105	98	102	149	81	95	96	37
11	21	118	54	120	100	289	103	103	76	94	80	36
12	18	74	53	115	98	313	108	91	72	82	107	37
13	17	64	58	109	97	293	98	105	89	78	90	134
14	19	59	64	212	94	393	91	741	74	79	104	55
15	105	56	99	131	93	355	89	1060	70	81	79	50
16	35	54	69	115	89	244	86	1470	69	80	72	46
17	102	58	63	137	89	244	86	519	70	82	67	52
18	40	54	2020	627	93	212	86	308	73	74	63	43
19	29	50	893	215	90	176	132	240	67	75	61	43
20	28	48	363	181	87	166	148	197	64	79	56	40
21	25	51	630	151	90	143	108	169	186	75	53	38
22	24	54	292	120	83	137	96	146	1280	73	48	38
23	24	172	187	110	78	122	89	137	117	70	45	40
24	23	87	160	105	84	117	88	137	99	68	46	38
25	23	71	153	1400	118	120	85	137	91	73	45	38
26	57	172	124	5020	152	887	93	133	87	68	43	34
27	267	84	110	692	125	672	86	126	98	89	44	33
28	63	71	105	333	100	288	83	125	126	268	65	33
29	43	87	100	274	---	223	79	120	88	72	50	32
30	35	129	99	248	---	211	78	102	109	67	47	32
31	32	---	97	210	---	193	---	98	---	210	195	---
TOTAL	1240	2690	6988	12294	3111	6636	3235	7364	3954	3894	2860	1375
MEAN	40.0	89.7	225	397	111	214	108	238	132	126	92.3	45.8
MAX	267	287	2020	5020	190	887	182	1470	1280	745	412	134
MIN	12	30	53	72	78	76	78	71	64	67	43	32
CFSM	.40	.89	2.23	3.93	1.10	2.12	1.07	2.36	1.31	1.25	.91	.45
IN.	.46	.99	2.57	4.53	1.15	2.44	1.19	2.71	1.46	1.43	1.05	.51

CAL YR 1977 TOTAL 30454 MEAN 83.4 MAX 2020 MIN 12 CFSM .83 IN 11.22
WTR YR 1978 TOTAL 55641 MEAN 152 MAX 5020 MIN 12 CFSM 1.51 IN 20.49

01645000 SENECA CREEK AT DAWSONVILLE, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
OCT									
19...	1430	29	--	--	12.0	10.0	--	--	--
19...	1435	29	--	--	12.0	10.0	--	--	--
21...	1245	25	250	7.2	18.5	10.5	--	--	--
27...	1430	173	--	--	19.0	15.5	--	--	--
27...	1445	173	--	--	19.0	15.5	--	--	--
NOV									
23...	1230	256	--	--	5.5	7.5	--	--	--
23...	1245	256	--	--	5.5	7.5	--	--	--
25...	1420	67	145	8.3	4.5	6.5	--	--	--
DEC									
08...	1300	63	120	--	-5.0	.5	6	46	18
08...	1410	67	--	--	-.5	.5	--	--	--
JAN									
16...	1500	150	160	7.0	-2.0	.5	--	--	--
MAR									
01...	1455	93	--	--	1.5	3.0	--	--	--
01...	1500	93	--	--	1.5	3.0	--	--	--
28...	1530	270	120	7.1	--	11.0	40	39	25
APR									
27...	1500	84	130	8.3	14.0	11.0	--	--	--
MAY									
01...	1130	75	--	--	16.5	12.0	--	--	--
JUN									
08...	1415	98	125	7.9	21.5	19.5	--	--	--
12...	1400	74	--	--	25.5	21.0	--	--	--
12...	1415	73	--	--	25.5	21.0	--	--	--
JUL									
20...	1430	79	155	8.1	31.5	23.0	--	--	--
SEP									
22...	1200	39	140	7.7	25.0	21.0	10	46	7

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT									
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--
NOV									
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
DEC									
08...	12	3.9	6.9	2.3	34	28	9.2	11	.0
08...	--	--	--	--	--	--	--	--	--
JAN									
16...	--	--	--	--	--	--	--	--	--
MAR									
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
28...	10	3.3	6.6	2.2	17	14	13	11	.0
APR									
27...	--	--	--	--	--	--	--	--	--
MAY									
01...	--	--	--	--	--	--	--	--	--
JUN									
08...	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--
JUL									
20...	--	--	--	--	--	--	--	--	--
SEP									
22...	12	3.9	6.1	2.3	48	39	4.9	11	.1

01645000 SENECA CREEK AT DAWSONVILLE, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT									
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--
NOV									
23...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
DEC									
08...	10	77	72	2.5	.02	410	180	100	100
08...	--	--	--	--	--	--	--	--	--
JAN									
16...	--	--	--	--	--	--	--	--	--
MAR									
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
28...	8.9	80	64	2.1	.05	1700	70	90	40
APR									
27...	--	--	--	--	--	--	--	--	--
MAY									
01...	--	--	--	--	--	--	--	--	--
JUN									
08...	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--
JUL									
20...	--	--	--	--	--	--	--	--	--
SEP									
22...	6.9	82	71	1.8	.02	340	110	60	50

01645200 WATTS BRANCH AT ROCKVILLE, MD

LOCATION.--Lat 39°05'03", long 77°10'38", Montgomery County, Hydrologic Unit 02070008, on left bank 0.2 mi (0.3 km) south of State Highway 28, 1.3 mi (2.1 km) west of post office in Rockville, and 9.4 mi (15.0 km) upstream from mouth.

DRAINAGE AREA.--3.70 mi^2 (9.58 km^2).

PERIOD OF RECORD.--June 1957 to current year.

REVISED RECORDS.--WSP 2103: 1965. WDR MD-DE-75-1: 1967-70.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 330 ft (100 m), from topographic map.

REMARKS.--Records good except those above 250 ft^3/s which are poor. Some regulation of low flow from unknown source above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--21 years, 4.01 ft^3/s (0.114 m^3/s), 14.72 in/yr (374 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,400 ft^3/s (96.3 m^3/s) Sept. 26, 1975, gage height, 7.32 ft (2.231 m), from rating curve extended above 280 ft^3/s (7.93 m^3/s) on basis of combined computation of peak flow through culvert and slope-area measurement of tributary inflow at gage height 7.22 ft (2.201 m) in gage well, 7.83 ft (2.387 m), from floodmarks; minimum, 0.10 ft^3/s (0.003 m^3/s) Sept. 2, 1966, gage height, 1.10 ft (0.335 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 220 ft^3/s (6.2 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Nov. 6	2245	240	6.80	4.09	1.247	July 10	1730	379	10.7	5.05	1.539
Dec. 18	0915	375	10.6	5.03	1.533	July 10	1900	230	6.51	4.00	1.219
Jan. 25	1315	226	6.40	3.97	1.210	July 31	2300	*916	25.9	6.48	1.975
Jan. 26	0345	641	18.2	6.04	1.841	Aug. 1	0145	820	23.2	6.34	1.932
Mar. 26	1230	288	8.16	4.48	1.366	Aug. 7	1930	652	18.5	6.06	1.847
June 8	1445	360	10.2	4.94	1.506	Aug. 13	1530	275	7.79	4.38	1.335
June 21	1815	310	8.78	4.63	1.411	Aug. 30	2245	234	6.63	4.03	1.228

Minimum discharge, 0.08 ft^3/s (0.002 m^3/s) Oct. 1, gage height, 1.10 ft (0.335 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	.66	13	2.5	3.2	2.9	3.4	2.0	2.3	1.5	81	2.3
2	.22	.82	2.8	2.6	3.2	2.5	3.1	1.9	2.2	7.6	7.5	1.6
3	.28	8.7	2.3	2.0	3.1	2.7	3.1	1.9	3.0	36	5.1	1.5
4	.22	11	2.0	1.9	2.8	2.8	3.1	15	2.2	3.1	6.8	1.5
5	.22	1.3	5.0	2.0	2.8	2.5	3.0	6.3	2.1	2.2	4.6	1.8
6	.44	23	2.5	2.2	2.7	2.5	2.9	4.1	2.0	1.9	4.3	1.4
7	.17	13	1.8	2.1	2.9	2.3	3.4	2.5	2.4	1.8	43	1.2
8	.22	14	1.6	13	3.1	2.6	2.8	4.6	17	1.9	4.4	1.2
9	11	2.2	1.9	35	2.9	3.0	2.7	12	2.4	1.6	3.3	1.2
10	.92	9.6	1.5	3.8	2.8	7.6	2.7	3.2	1.9	31	5.1	1.1
11	.22	3.3	1.5	3.1	2.7	13	2.9	2.6	1.8	11	2.4	1.1
12	.22	1.9	1.5	3.1	2.7	6.6	2.8	2.5	1.9	1.9	6.3	2.5
13	.22	2.0	1.6	8.2	2.7	5.5	2.5	11	3.2	1.7	22	3.2
14	13	1.5	6.1	18	3.2	13	2.4	33	1.6	1.7	4.4	1.4
15	4.2	1.4	2.9	4.0	2.8	5.2	2.4	40	1.6	1.7	2.8	1.3
16	6.2	1.4	1.9	2.9	2.6	7.8	2.3	41	1.6	2.5	2.4	2.6
17	6.2	3.0	2.1	26	2.8	5.0	2.4	7.3	1.8	1.7	2.1	1.4
18	.60	1.5	118	21	2.9	3.7	3.7	4.8	1.6	1.5	2.0	1.1
19	.44	1.4	17	4.5	3.0	3.4	7.9	4.0	1.5	1.4	2.0	1.5
20	.47	1.3	11	4.0	2.9	3.2	4.2	3.5	1.5	1.4	1.7	1.1
21	.38	2.2	29	3.5	3.1	3.6	2.7	3.1	24	1.3	1.7	1.3
22	.84	3.2	4.8	3.2	2.7	3.4	2.8	3.2	2.8	1.3	1.7	1.2
23	.53	8.0	3.7	3.1	2.6	3.0	2.6	4.3	1.7	1.2	1.7	1.2
24	.54	2.1	3.4	3.2	3.3	2.9	2.5	3.5	1.5	1.3	1.6	1.1
25	.67	5.7	4.1	83	5.8	5.9	2.4	2.9	1.5	5.3	1.6	1.1
26	36	7.0	2.7	167	3.7	79	3.8	2.6	1.5	1.4	1.5	.96
27	8.4	1.9	2.5	6.9	3.0	15	2.4	2.6	5.4	1.4	5.7	.99
28	1.3	1.8	2.5	4.5	2.6	5.4	2.3	2.6	2.2	1.6	2.4	1.0
29	.87	8.6	2.4	3.9	---	4.3	2.2	2.6	6.6	1.1	1.5	.88
30	.89	13	2.6	3.5	---	3.8	2.1	2.5	2.0	1.7	11	.90
31	.72	---	2.8	3.4	---	3.6	---	2.6	---	68	8.3	---
TOTAL	97.70	156.48	258.5	447.1	84.6	227.7	89.5	235.7	104.8	200.7	251.9	42.63
MEAN	3.15	5.22	8.34	14.4	3.02	7.35	2.98	7.60	3.49	6.47	8.13	1.42
MAX	36	23	118	167	5.8	79	7.9	41	24	68	81	3.2
MIN	.17	.66	1.5	1.9	2.6	2.3	2.1	1.9	1.5	1.1	1.5	.88
CFSM	.85	1.41	2.25	3.89	.82	1.99	.81	2.05	.94	1.75	2.20	.38
IN.	.98	1.57	2.60	4.49	.85	2.29	.90	2.37	1.05	2.02	2.53	.43

CAL YR 1977 TOTAL 1122.17 MEAN 3.07 MAX 118 MIN .11 CFSM .83 IN 11.28
WTR YR 1978 TOTAL 2197.31 MEAN 6.02 MAX 167 MIN .17 CFSM 1.63 IN 22.09

01645500 POTOMAC RIVER AT GREAT FALLS, MD
(National stream-quality accounting network station)

LOCATION.--Lat 39°00'03", long 77°14'56", Montgomery County, Hydrologic Unit 02070008, on left bank in the intake building for the Washington Aqueduct at the diversion dam at Great Falls, and at river mile 126.1 (202.9 km).

DRAINAGE AREA.--11,430 mi^2 (29,600 km^2).

PERIOD OF RECORD.--Water years 1973 to 1978 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: March 1973 to September 1978 (discontinued).
WATER TEMPERATURES: March 1973 to September 1978 (discontinued).

INSTRUMENTATION.--Water-quality monitor March 1973 to September 1978 (discontinued).

REMARKS.--Records of discharge are given for station 01646500 Potomac River near Washington, D. C. (unadjusted for diversions). Interruptions in record were due to malfunctions of the instruments. Some periods of missing temperature records were supplied by the Corps of Engineers.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (March 1974 to September 1978 (discontinued)): Maximum, 556 micromhos Sept. 30, 1977; minimum, 48 micromhos Jan. 26, 1978.
WATER TEMPERATURE: Maximum, 33.0°C July 20, 1977; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 525 micromhos Oct. 1, 7; minimum, 48 micromhos Jan. 26.
WATER TEMPERATURES: Maximum, 32.0°C July 23; minimum, 0.5°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	525	491	508	356	336	343	221	178	196	222	213	219
2	519	499	509	380	354	368	206	178	190	221	217	219
3	521	493	508	390	380	384	211	172	188	227	221	223
4	501	479	490	390	347	378	183	170	179	236	225	231
5	493	459	474	375	339	362	180	174	178	243	229	234
6	497	450	472	371	307	342	190	178	182	248	240	245
7	519	493	503	301	252	271	198	189	194	249	239	244
8	525	497	510	300	254	282	198	184	194	247	237	243
9	504	467	492	271	250	264	203	198	202	236	210	217
10	482	464	474	266	182	212	212	202	207	209	205	206
11	465	419	449	192	173	180	218	210	214	212	202	205
12	462	447	455	190	166	178	226	217	223	221	205	215
13	472	443	464	203	174	190	228	221	225	219	210	214
14	493	464	480	204	195	200	229	224	227	240	206	216
15	491	464	478	214	200	206	229	225	227	249	234	242
16	465	412	439	216	205	210	239	217	232	247	221	235
17	493	455	477	223	216	219	224	214	218	223	217	220
18	481	386	430	233	223	229	229	104	164	320	183	223
19	404	371	392	239	231	234	147	123	136	273	197	233
20	408	366	379	242	231	236	175	147	159	228	207	213
21	443	411	425	242	226	236	175	161	169	217	209	213
22	447	410	432	255	240	248	172	154	165	227	211	219
23	410	404	407	254	229	244	182	155	168	244	220	233
24	450	408	435	249	228	239	197	181	184	239	177	212
25	469	447	459	234	206	217	195	186	190	239	133	205
26	479	464	471	230	213	218	203	193	199	135	48	67
27	465	331	403	259	226	248	205	198	202	136	80	111
28	360	299	335	239	223	229	210	202	207	146	136	143
29	363	334	352	244	221	235	215	207	212	145	77	125
30	338	317	328	243	221	233	214	203	211	156	73	117
31	337	323	329	---	---	---	217	210	213	168	151	160
MONTH	525	299	444	390	166	255	239	104	195	320	48	203

01645500 POTOMAC RIVER AT GREAT FALLS, MD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	182	167	175	308	297	302	186	175	181	274	255	265
2	193	182	189	322	308	316	194	186	191	262	249	256
3	201	193	198	325	315	321	198	193	196	274	253	267
4	210	200	205	328	314	324	200	198	199	268	235	252
5	216	206	213	320	302	315	203	200	201	234	219	226
6	219	206	215	323	312	317	208	202	207	246	227	237
7	233	216	224	321	304	316	211	206	208	255	244	251
8	235	222	228	304	290	297	214	208	211	266	251	260
9	237	223	231	299	289	295	215	208	213	263	239	255
10	246	234	239	310	290	296	218	210	214	254	228	237
11	250	237	244	326	295	311	212	210	211	252	235	244
12	246	237	242	290	233	256	214	212	213	245	223	236
13	256	240	249	249	213	232	216	214	215	234	217	226
14	253	243	249	259	229	241	218	214	216	220	155	191
15	262	250	255	246	190	226	224	215	219	182	143	163
16	274	255	265	187	137	152	224	218	221	142	134	137
17	275	266	270	148	137	143	235	219	226	138	128	134
18	271	262	266	164	148	155	240	223	231	136	125	131
19	269	262	265	183	156	174	236	229	234	145	132	140
20	271	265	269	187	147	178	245	230	237	160	142	152
21	272	266	269	174	154	163	244	234	239	173	158	166
22	273	266	271	165	156	161	255	242	249	182	172	177
23	281	271	276	170	162	167	260	252	255	190	179	184
24	285	276	280	172	165	168	257	246	253	199	186	193
25	288	275	282	171	164	166	266	250	258	206	197	202
26	280	257	267	170	143	162	262	256	259	217	203	210
27	272	255	265	173	152	163	262	257	260	220	214	218
28	297	262	281	160	146	151	268	261	265	225	210	221
29	---	---	---	150	148	149	272	261	264	231	220	226
30	---	---	---	163	149	155	289	268	279	238	219	229
31	---	---	---	175	163	169	---	---	---	236	218	229
MONTH	297	167	246	328	137	224	289	175	228	274	125	210

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	233	219	227	348	325	334	281	253	267	304	280	294
2	230	218	224	339	315	330	295	246	269	319	277	300
3	231	220	224	332	208	291	344	276	319	309	276	291
4	239	225	231	239	190	216	357	344	352	333	311	321
5	245	236	241	324	183	231	348	314	337	374	332	353
6	262	243	251	247	205	237	319	291	308	390	335	371
7	274	253	263	224	194	203	328	270	305	337	285	311
8	280	236	271	218	200	206	258	217	227	282	274	278
9	285	243	273	224	208	215	229	192	213	294	278	286
10	280	265	274	233	218	226	213	181	196	288	272	280
11	280	260	271	250	204	233	230	213	223	303	279	291
12	277	260	269	264	243	252	219	204	211	306	283	297
13	285	273	279	274	259	266	231	184	215	316	285	299
14	286	275	280	273	260	266	235	212	223	319	280	298
15	292	280	286	274	259	266	252	235	243	340	306	327
16	305	288	297	285	268	275	256	244	251	344	311	331
17	305	290	299	293	276	291	255	246	251	347	326	337
18	315	296	308	295	280	288	255	240	251	365	323	346
19	327	310	320	301	284	293	260	242	252	344	307	332
20	334	320	327	298	276	289	263	249	259	378	335	360
21	338	325	334	300	270	286	269	257	264	388	354	374
22	321	219	286	294	256	276	268	254	262	380	354	370
23	317	211	286	274	259	268	272	260	267	389	353	373
24	325	299	312	284	260	270	274	259	268	388	363	378
25	321	303	313	307	274	295	266	240	257	386	352	374
26	322	308	316	322	305	312	257	243	251	401	360	379
27	332	315	325	325	318	323	275	255	263	412	376	396
28	329	312	321	333	306	322	294	268	276	426	394	413
29	334	320	328	321	300	311	303	282	295	442	415	428
30	333	315	323	320	300	315	312	289	305	445	419	432
31	---	---	---	334	276	313	289	243	269	---	---	---
MONTH	338	211	285	348	183	274	357	181	263	445	272	341

01645500 POTOMAC RIVER AT GREAT FALLS, MD--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	21.0	20.0	20.5	14.5	13.5	14.0	7.5	6.5	7.0	3.0	2.5	3.0
2	21.0	20.0	20.5	15.0	14.5	14.5	7.0	6.0	6.5	3.0	2.0	2.5
3	21.0	18.0	19.0	16.5	15.0	15.5	6.5	6.0	6.0	2.0	1.0	1.5
4	18.0	16.5	17.0	18.5	16.5	17.5	7.0	6.5	6.5	1.5	.5	1.0
5	16.5	12.5	16.0	19.0	18.0	18.5	7.0	7.0	7.0	1.5	.5	.5
6	17.0	15.5	16.5	19.0	18.0	18.5	7.0	6.0	7.0	3.5	1.0	2.5
7	16.5	12.5	16.0	18.0	17.5	17.5	6.0	4.0	4.5	3.5	3.5	3.5
8	16.5	15.5	16.0	17.5	15.5	16.5	4.0	3.5	4.0	5.0	3.5	4.0
9	16.5	15.5	15.5	15.5	15.0	15.0	4.5	3.0	4.0	6.0	3.0	4.5
10	16.0	15.0	15.5	15.0	13.5	15.0	3.0	2.0	2.5	3.0	.0	1.5
11	15.5	15.0	15.0	14.5	13.0	13.5	2.5	1.0	1.5	.5	.0	.0
12	16.0	15.5	15.5	12.5	11.0	12.0	1.5	.5	1.0	.5	.0	.0
13	15.5	14.5	15.0	11.0	9.5	10.5	3.5	1.5	2.5	1.5	.5	1.0
14	14.5	13.5	14.0	9.5	8.5	9.0	4.5	3.5	4.0	1.5	1.0	1.5
15	14.5	13.0	13.5	9.5	8.5	9.0	5.5	4.5	5.0	1.0	.0	1.0
16	14.5	13.0	14.0	10.5	9.0	9.5	5.5	5.0	5.0	.5	.0	.5
17	13.0	11.5	12.0	11.5	10.0	10.5	5.5	4.5	5.0	.5	.5	.5
18	12.0	10.5	11.0	11.0	9.5	10.5	5.5	5.0	5.5	2.0	1.0	1.5
19	13.0	11.5	12.0	10.0	9.0	9.5	5.0	4.5	5.0	2.0	1.5	2.0
20	13.5	12.0	13.0	9.5	9.0	9.0	4.5	4.0	4.0	1.5	.5	1.0
21	14.0	12.5	13.0	10.0	9.0	9.5	5.0	4.0	4.5	1.0	.5	.5
22	14.5	12.5	13.5	10.0	10.0	10.0	4.5	4.0	4.5	1.0	1.0	1.0
23	15.0	14.0	14.5	10.0	9.0	9.5	4.0	3.5	4.0	1.5	1.0	1.0
24	15.0	14.0	14.5	10.0	9.0	9.5	4.5	4.0	4.0	1.5	.5	1.0
25	14.5	14.0	14.0	9.5	5.5	8.5	5.5	4.5	5.0	1.5	1.0	1.0
26	15.0	14.5	14.5	8.0	6.5	7.5	5.0	3.5	4.0	2.0	1.0	1.5
27	15.5	14.5	15.5	6.0	5.0	5.5	3.5	2.0	2.5	1.0	.5	1.0
28	17.0	15.5	16.0	5.5	5.0	5.5	2.5	1.5	2.0	1.0	.5	.5
29	17.0	15.5	16.5	5.5	5.0	5.5	2.0	1.0	1.5	.5	.5	.5
30	17.0	15.0	15.5	6.5	6.0	6.5	2.0	1.0	1.0	1.0	.5	.5
31	16.0	14.0	14.5	---	---	---	3.0	2.0	2.0	1.0	.5	1.0
MONTH	21.0	10.5	15.0	19.0	5.0	11.5	7.5	.5	4.0	6.0	.0	1.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	1.0	.5	1.0	4.5	4.0	4.0	11.5	10.0	11.0	17.5	15.0	16.5
2	1.5	.5	1.0	4.5	3.0	3.5	12.5	11.0	12.0	17.5	15.0	16.0
3	1.5	1.0	1.5	4.0	2.5	3.0	11.5	11.0	11.5	18.0	15.5	17.0
4	2.5	1.0	1.5	3.5	2.0	2.5	12.5	11.0	11.5	17.5	15.0	16.5
5	2.0	1.0	1.0	3.5	1.5	2.5	14.0	11.5	12.5	15.0	14.5	14.5
6	1.0	.5	1.0	3.5	2.5	3.0	13.5	12.5	13.0	15.5	14.5	15.0
7	.5	.5	.5	4.0	3.0	3.5	14.5	12.5	13.0	17.0	15.0	15.5
8	1.0	.5	.5	4.0	3.5	3.5	15.0	13.5	14.0	16.5	15.5	16.0
9	1.0	.5	.5	3.5	3.0	3.5	15.0	13.0	14.0	18.0	15.5	16.5
10	1.0	.5	1.0	4.5	3.5	4.0	15.0	13.5	14.0	18.0	16.0	17.0
11	1.0	.5	1.0	6.0	4.0	5.0	15.0	13.5	14.5	18.5	15.5	17.0
12	1.5	.5	1.0	6.0	5.0	5.5	15.0	13.0	13.5	19.0	16.5	18.0
13	2.5	1.5	2.0	6.5	5.5	6.0	17.5	13.0	14.5	18.5	17.5	18.0
14	17.5	1.5	2.0	6.0	4.5	5.5	17.0	13.5	15.5	17.5	15.0	16.0
15	3.0	1.5	2.5	4.5	2.0	3.5	16.5	14.5	15.5	15.0	14.0	14.5
16	2.5	2.5	2.5	2.5	2.0	2.0	16.5	14.0	15.5	14.0	13.0	13.5
17	3.5	2.5	3.0	3.5	2.5	3.0	16.5	14.5	15.5	13.0	12.5	12.5
18	4.0	3.5	3.5	4.5	3.5	4.0	16.0	15.5	16.0	12.5	12.0	12.5
19	4.5	3.5	4.0	5.5	4.0	5.0	15.0	14.5	15.0	14.0	12.5	13.5
20	4.0	3.0	3.5	6.5	5.0	6.0	14.5	14.0	14.5	15.5	14.0	15.0
21	4.0	3.0	3.5	7.0	5.5	6.0	14.0	13.0	13.5	18.5	15.5	17.0
22	4.0	3.0	3.5	8.5	6.5	7.5	14.5	11.0	13.0	19.5	17.5	18.5
23	4.0	2.0	3.0	9.0	8.0	8.5	15.0	13.0	14.0	19.5	18.0	18.5
24	4.0	2.5	3.5	9.5	8.0	9.0	16.0	14.0	15.0	19.5	18.5	19.0
25	5.5	3.0	4.0	9.0	8.0	8.5	15.5	14.5	15.0	21.0	18.5	19.5
26	5.0	4.0	4.5	8.0	6.0	7.0	15.0	13.5	14.0	22.5	19.5	21.0
27	5.0	3.5	4.5	6.0	5.5	5.5	14.0	13.5	13.5	21.5	21.0	21.0
28	4.5	4.0	4.0	7.5	5.0	6.5	16.0	13.0	14.5	21.5	20.0	20.5
29	---	---	---	9.5	7.5	8.0	17.5	15.0	16.0	23.0	20.5	22.0
30	---	---	---	10.0	8.5	9.5	17.5	15.5	16.5	25.0	21.5	23.0
31	---	---	---	10.5	9.5	10.0	---	---	---	25.0	23.5	24.0
MONTH	17.5	.5	2.5	10.5	1.5	5.5	17.5	10.0	14.0	25.0	12.0	17.5

01645500 POTOMAC RIVER AT GREAT FALLS, MD--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	26.0	23.5	24.5	29.0	27.0	28.0	27.0	22.0	25.0	28.0	27.0	27.5
2	26.5	24.5	25.5	28.0	24.5	26.5	27.0	25.5	26.0	28.5	27.0	27.5
3	26.0	25.0	25.5	24.5	20.5	22.5	28.0	26.5	27.0	27.5	26.0	27.0
4	25.0	23.5	24.5	21.0	19.5	20.5	27.5	27.0	27.0	27.5	26.0	26.5
5	24.5	23.0	24.0	22.0	18.5	20.5	28.0	26.5	27.0	28.0	26.0	26.5
6	24.5	22.5	23.5	22.0	20.0	21.0	28.0	26.5	27.0	28.5	26.0	27.0
7	24.5	23.5	23.5	23.5	20.5	22.0	28.0	26.5	27.5	28.5	27.0	27.5
8	24.0	23.0	23.5	25.0	22.5	23.5	27.5	26.5	27.0	28.5	27.5	28.0
9	25.5	23.5	24.0	26.5	23.5	25.0	26.5	25.5	26.0	29.0	27.5	28.0
10	26.0	23.5	24.5	26.5	25.0	26.0	27.0	25.0	26.0	29.0	26.5	27.0
11	26.5	24.0	25.0	26.5	25.0	26.0	27.5	25.5	26.5	27.0	26.0	26.5
12	27.0	24.5	25.5	26.5	24.5	25.5	27.0	26.0	26.5	28.0	26.5	27.0
13	26.5	24.5	25.5	26.5	24.0	25.0	27.0	25.5	26.0	28.0	25.0	26.5
14	24.5	22.5	23.5	26.0	25.0	25.5	28.0	25.5	26.5	25.0	24.0	24.0
15	24.0	22.0	23.0	27.0	25.5	26.0	28.5	27.0	27.5	25.0	23.0	24.0
16	25.0	22.0	23.5	26.5	26.0	26.0	29.5	27.0	28.5	26.0	24.5	25.0
17	24.5	23.5	24.0	27.0	25.0	26.0	30.0	28.0	29.0	26.5	25.0	25.5
18	27.0	23.5	25.0	28.0	25.0	26.5	30.0	27.5	29.0	28.0	25.0	26.5
19	28.0	26.0	27.0	28.5	26.5	27.5	30.5	28.0	29.5	28.5	27.0	27.5
20	29.0	26.0	27.5	29.5	26.5	27.5	30.0	29.0	29.5	28.5	26.0	27.0
21	28.5	27.0	28.0	30.5	27.5	28.5	29.5	27.0	28.0	27.0	26.0	26.5
22	27.5	25.0	26.5	31.0	28.5	29.5	29.0	27.0	28.0	27.5	26.0	26.5
23	28.0	24.5	26.5	32.0	30.0	31.0	29.0	26.5	28.0	26.0	24.0	25.0
24	28.0	26.0	27.0	31.5	30.0	30.5	29.5	27.0	28.5	24.0	23.0	23.5
25	28.0	26.0	27.0	30.5	28.5	29.5	30.0	28.0	29.0	23.5	22.5	23.0
26	28.0	26.0	26.5	28.5	27.0	27.5	30.5	28.5	29.5	23.5	21.5	22.5
27	29.0	26.0	27.5	29.5	27.0	28.5	30.0	28.5	29.0	22.0	21.0	21.5
28	29.0	27.0	28.0	29.5	27.5	28.5	29.5	27.5	28.5	22.5	22.0	22.0
29	29.5	27.0	28.0	29.0	26.5	28.0	30.5	28.0	29.0	22.0	20.0	21.0
30	29.5	27.0	28.5	28.5	27.5	28.0	30.0	28.5	29.0	20.5	19.5	20.0
31	---	---	---	27.5	26.5	27.0	29.0	27.0	28.0	---	---	---
MONTH	29.5	22.0	25.5	32.0	18.5	26.0	30.5	22.0	27.5	29.0	19.5	25.5

01646500 POTOMAC RIVER NEAR WASHINGTON, DC

LOCATION.--Lat 38°56'58", long 77°07'40", Montgomery County, Md., Hydrologic Unit 02070008, on left bank just above Little Falls Dam, 1 mi (1.6 km) upstream from District of Columbia boundary line, 1.2 mi (1.9 km) upstream from Chain Bridge, 1.8 mi (2.9 km) east of Langley, Fairfax County, Va., and at mile 117.4 (188.9 km).

DRAINAGE AREA.--11,560 mi² (29,940 km²).

PERIOD OF RECORD.--March 1930 to current year.

REVISED RECORDS.--WSP 726: Drainage area. WDR MD-DE-75-1: 1973-74(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 37.95 ft (11.567 m) National Geodetic Vertical Datum of 1929. Prior to June 7, 1930, nonrecording gage, and June 7, 1930, to Jan. 22, 1965, water-stage recorder at site 1 mi (1.6 km) upstream on right bank at same datum.

REMARKS.--Records good. Diversions at Great Falls through aqueducts, and since June 1959, from gage pool at Little Falls Dam, for municipal supply of Washington, D. C.; since October 1958, at Rockville Filtration Plant, for municipal supply of city of Rockville; since April 1961, at Potomac Filtration Plant for water supply of Washington Suburban Sanitary District; since October 1961, at Fairfax Water Treatment Plant for water supply of city of Fairfax (from Goose Creek); and since April 1964, at Violets Lock to Chesapeake and Ohio Canal. Low flow affected slightly by Stony River Reservoir (see station 01595200) and since December 1950, by Savage River Reservoir (see station 01597500). Low flow affected extensively at times by run-of-the-river hydroelectric plants. Gage-height telemeter at station.

AVERAGE DISCHARGE.--48 years, 11,280 ft³/s (319.4 m³/s), 13.25 in/yr (337 mm/yr), adjusted for diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 484,000 ft³/s (13,700 m³/s) Mar. 19, 1936, gage height, 28.1 ft (8.56 m) site then in use; minimum daily observed at gaging station, 121 ft³/s (3.43 m³/s) Sept. 9, 1966, does not include diversion of 489 ft³/s (13.8 m³/s) for municipal use; minimum daily (adjusted), 601 ft³/s (17.0 m³/s) Sept. 10, 1966, includes diversion of 449 ft³/s (12.7 m³/s) for municipal use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1889, was of approximately the same magnitude as that of March 19, 1936.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 45,000 ft³/s (1,200 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 9	2330	68800	1950	7.60	2.316	Mar. 16	1800	*153000	4330	10.83	3.301
Dec. 3	0830	46000	1300	6.49	1.978	Mar. 28	1015	123000	3480	9.65	2.941
Jan. 28	1130	145000	4110	10.47	3.191	May 17	2045	117000	3310	9.44	2.877

Minimum daily discharge, 1,210 ft³/s (34.3 m³/s) Oct. 7, does not include diversion for municipal use; minimum daily (adjusted), 1,720 ft³/s (48.7 m³/s) Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1340	3890	16900	11100	26100	8490	40300	13600	10700	5530	9330	4710
2	1580	3590	33100	10400	22100	8910	33800	12100	9760	6170	7350	6760
3	1700	3290	44700	9900	19200	8530	28500	11000	9030	7880	7190	8430
4	1580	3990	36200	8440	16700	8150	25700	10500	9040	16300	8190	6810
5	1350	5630	26400	7590	14600	7650	23400	10800	8410	27400	8970	5530
6	1330	5940	22400	7250	13200	7150	21300	10400	7760	32400	12500	4510
7	1210	8990	20300	7210	12100	7050	20600	11000	7410	19500	12600	3840
8	1230	23200	18000	7780	11700	6860	19900	14100	7510	13700	29000	3400
9	1770	52900	16300	27300	11100	6650	18800	14200	7140	10700	35900	3140
10	1660	55000	13600	29100	11600	6630	17600	15200	6690	9940	23500	2880
11	1560	36000	11600	19200	10300	7280	16200	15000	6480	9080	16100	2660
12	1720	29000	9920	19900	9960	11500	15200	15500	6050	8240	14000	2500
13	1860	22800	9080	18600	9690	15100	14100	14700	5880	9780	15300	2760
14	2500	17700	8570	17800	9060	27400	12800	25800	5990	8540	16500	2940
15	2510	14100	8820	15700	8740	69000	11900	79500	5700	7120	15600	2890
16	2350	11600	10500	13500	8270	140000	11000	105000	5220	6530	14500	2880
17	2920	10100	10900	14000	7910	125000	10200	114000	4850	6050	13800	2970
18	3060	9010	25100	16700	7870	72200	9460	104000	4750	5880	11400	2820
19	3420	7920	42800	13900	7800	51500	9580	73400	4630	6090	9390	2720
20	4050	6990	40600	11400	7620	46000	10500	53400	4470	5690	7510	2610
21	3410	6400	41200	9610	7100	51600	11700	41400	4270	5290	6210	2490
22	3020	6010	42200	9470	6780	50400	12200	32600	5750	4690	5200	2530
23	2730	6480	33100	9220	6440	49500	11600	26300	5680	4110	4640	2520
24	2410	8770	26400	8210	6520	48600	11100	22400	6020	3780	4140	2420
25	2140	9380	21700	12300	6610	41700	10400	19500	5460	3520	3700	2290
26	2610	11700	19500	60600	7680	41100	9840	18200	5190	3380	3520	2230
27	3540	14700	16600	93400	8060	68400	9460	17100	5300	3300	3200	2190
28	3440	13400	14000	117000	8110	118000	9120	15500	5220	3570	3250	2070
29	3490	12200	12300	70500	---	98000	12600	13700	5230	4270	3960	2040
30	3810	12000	11900	46300	---	69100	15300	12500	6080	5670	4040	1880
31	3840	---	11700	33800	---	50600	---	11300	---	5330	5230	---
TOTAL	75140	432680	676390	757180	302920	1328050	484160	953700	191670	269430	335720	100420
MEAN	2424	14420	21820	24430	10820	42840	16140	30760	6389	8691	10830	3347
MAX	4050	55000	44700	117000	26100	140000	40300	114000	10700	32400	35900	8430
MIN	1210	3290	8570	7210	6440	6630	9120	10400	4270	3300	3200	1880
(≠)	491	460	447	433	428	429	451	467	518	534	538	524
MEAN≠	2915	14880	22270	24860	11250	43270	16590	31230	6907	9225	11370	3871
CFSM≠	.25	1.29	1.93	2.15	.97	3.74	1.44	2.70	.60	.80	.98	.33
IN≠	.29	1.44	2.22	2.48	1.01	4.32	1.60	3.11	.67	.92	1.13	.37

CAL YR 1977 TOTAL 3257261 MEAN 8924 MAX 87200 MIN 796 MEAN≠ 9394 CFSM≠ .81 IN≠ 11.03
WTR YR 1978 TOTAL 5907460 MEAN 16180 MAX 140000 MIN 1210 MEAN≠ 16660 CFSM≠ 1.44 IN≠ 19.56

≠ Diversion in cfs, for municipal supply of Washington, D.C., Washington Suburban Sanitary District, city of Rockville, city of Fairfax (from Goose Creek), and the Chesapeake and Ohio Canal (insignificant diversion to canal during current water year); records furnished by Corps of Engineers, Washington Suburban Sanitary Commission, city of Rockville, and city of Fairfax.

≠ Adjusted for diversion.

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC
(National stream-quality accounting network station)

LOCATION.--Lat 38°55'46", long 77°07'02", Arlington County, Va., Hydrologic Unit 02070010, under right downstream side of bridge on Virginia State Highway 123, and at river mile 118.9 (191.3 km).

DRAINAGE AREA.--11,570 mi² (29,970 km²).

PERIOD OF RECORD.--March 1973 to current year. Prior to October 1977, published as "at Great Falls."

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June 1978 to current year.
pH UNITS: June 1978 to current year.
WATER TEMPERATURES: June 1978 to current year.
DISSOLVED OXYGEN: June 1978 to current year.

INSTRUMENTATION.--Water-quality monitor since June 1978.

REMARKS.--Records of discharge are given for station 01646500 Potomac River near Washington, D.C. (unadjusted for diversions). Interruptions in record were due to malfunctions of the recording instruments.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	ALDRIN, TOTAL (UG/L)	DDD, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)
SEP 06...	1040	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

DATE	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	SIMAZINE TOTAL COULSON COND. (UG/L)
SEP 06...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)
OCT 11...	1015	1560	486	8.2	16.0	15.0	8	--	--	76	760	160
NOV 08...	1030	22400	345	8.0	16.5	16.0	55	--	10.2	1700	9500	130
JAN 17...	1045	14000	238	7.6	-1.5	.0	10	--	--	30	310	94
30...	1100	44000	162	7.6	.5	.5	60	--	--	540	260	65
MAR 14...	1000	26600	305	7.7	12.5	5.5	40	--	--	290	2300	100
APR 11...	1015	16400	250	8.0	17.0	14.0	7	--	10.6	K9	80	96
MAY 10...	0900	15500	260	7.8	17.0	16.0	10	--	--	140	300	110
15...	1045	76800	200	7.5	16.0	15.5	95	--	10.6	K11000	48000	83
JUL 11...	1000	8940	255	8.0	20.5	25.0	--	15	--	500	640	100
AUG 15...	1000	15700	250	8.3	29.0	26.5	--	42	8.2	1500	1700	100
SEP 12...	1045	2450	320	8.4	29.5	26.5	--	8.0	8.4	8	870	120

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
OCT												
11...	69	44	12	36	3.4	110	90	100	31	.2	.4	298
NOV												
08...	31	38	8.4	17	3.4	120	98	50	19	.1	5.3	194
JAN												
17...	36	28	5.9	8.6	1.8	71	58	28	10	.0	7.0	134
30...	28	20	3.7	4.2	2.0	45	37	18	6.0	.1	5.9	93
MAR												
14...	30	30	7.1	11	3.0	90	74	35	13	.1	3.3	160
APR												
11...	26	28	6.3	5.8	1.6	83	68	32	7.1	.1	4.6	136
MAY												
10...	30	32	6.6	8.2	1.6	94	77	34	8.8	.1	1.7	158
15...	25	25	4.9	6.3	2.1	70	57	27	7.8	.1	5.5	122
JUL												
11...	29	31	6.4	6.7	2.1	--	75	33	7.7	.1	6.6	161
AUG												
15...	27	30	6.3	7.0	2.5	--	74	26	6.2	.1	7.5	142
SEP												
12...	29	34	8.8	13	2.4	--	92	40	12	.1	3.5	193

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)
OCT												
11...	281	.07	.03	--	.37	.07	.01	--	--	--	--	--
NOV												
08...	200	.75	.12	--	.31	.29	.05	--	--	--	--	--
JAN												
17...	124	1.7	.07	--	.40	.06	.03	--	--	--	--	--
30...	82	1.3	.10	.66	.38	.11	.03	0	0	0	0	1
MAR												
14...	147	1.5	.24	1.4	.87	.19	.05	--	--	--	--	--
APR												
11...	126	1.3	.01	--	.17	.03	.01	--	--	--	--	--
MAY												
10...	139	.76	.02	.49	.18	.05	.01	--	--	--	--	--
15...	113	1.1	.13	1.4	.93	.40	.03	1	0	100	0	1
JUL												
11...	139	1.2	.04	.55	.26	.05	.03	--	--	--	--	--
AUG												
15...	140	1.0	.01	.51	.41	.16	.08	1	1	100	100	10
SEP												
12...	169	.46	.03	.85	.44	.08	.02	--	--	--	--	--

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
OCT												
11...	--	--	--	--	--	--	--	--	--	--	34	--
NOV												
08...	--	--	--	--	--	--	--	--	--	--	29	--
JAN												
17...	--	--	--	--	--	--	--	--	--	--	7	--
30...	2	<10	2	3	4	9	3	3500	30	120	29	130
MAR												
14...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
11...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
10...	--	--	--	--	--	--	--	--	--	--	--	--
15...	0	20	1	11	0	17	1	1500	50	500	7	500
JUL												
11...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
15...	5	<10	0	3	0	6	3	3400	10	110	4	120
SEP												
12...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)
OCT												
11...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
08...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
17...	--	--	--	--	--	--	--	--	--	--	--	--
30...	10	<.5	<.5	0	0	0	0	30	10	--	--	--
MAR												
14...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
11...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
10...	--	--	--	--	--	--	--	--	--	--	--	--
15...	0	<.5	<.5	1	0	0	0	120	0	--	--	--
JUL												
11...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
15...	10	<.5	<.5	0	0	2	2	30	0	--	--	--
SEP												
12...	--	--	--	--	--	--	--	--	--	2.2	.5	3.8

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM DIS-SOLVED, EXTRAC-TION (UG/L)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)	PCB, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)
OCT										
11...	--	--	--	--	--	5.9	--	--	--	--
NOV										
08...	--	--	--	--	--	8.1	--	--	--	--
DEC										
20...	3.6	3.4	3.6	.09	.17	--	--	--	--	--
JAN										
17...	--	--	--	--	--	7.6	--	--	ND	ND
30...	--	--	--	--	--	--	1.2	.0	--	--
MAR										
14...	--	--	--	--	--	8.0	--	--	--	--
APR										
11...	--	--	--	--	--	3.2	--	--	--	ND
11-30	--	--	--	--	--	--	--	--	--	--
MAY										
01-10	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	7.4	--	--	--	--
15...	--	--	--	--	--	--	5.6	2.6	--	--
JUL										
11...	--	--	--	--	--	--	--	--	--	--
11-31	--	--	--	--	--	--	--	--	--	--
AUG										
01-15	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	4.6	--	--	--
16...	--	--	--	--	--	--	--	--	ND	ND
SEP										
12...	--	--	--	--	--	--	--	--	--	--
12...	.4	3.6	.5	.10	.30	3.9	--	--	--	--

DATE	ATRA-ZINE, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)
OCT										
11...	--	--	--	--	--	--	--	--	--	--
NOV										
08...	--	--	--	--	--	--	--	--	--	--
DEC										
20...	--	--	--	--	--	--	--	--	--	--
JAN										
17...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
30...	--	--	--	--	--	--	--	--	--	--
MAR										
14...	--	--	--	--	--	--	--	--	--	--
APR										
11...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
11-30	--	--	--	--	--	--	--	--	--	--
MAY										
01-10	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
JUL										
11...	--	--	--	--	--	--	--	--	--	--
11-31	--	--	--	--	--	--	--	--	--	--
AUG										
01-15	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
16...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SEP										
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--

ND NOT DECTECTED

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)
OCT										
11...	--	--	--	--	--	--	--	--	--	--
NOV										
08...	--	--	--	--	--	--	--	--	--	--
DEC										
20...	--	--	--	--	--	--	--	--	--	--
JAN										
17...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
30...	--	--	--	--	--	--	--	--	--	--
MAR										
14...	--	--	--	--	--	--	--	--	--	--
APR										
11...	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
11-30	--	--	--	--	--	--	--	--	--	--
MAY										
01-10	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
JUL										
11...	--	--	--	--	--	--	--	--	--	--
11-31	--	--	--	--	--	--	--	--	--	--
AUG										
01-15	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
16...	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
SEP										
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--

DATE	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	SIMA-ZINE TOTAL COUL-SON COND. (UG/L)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT									
11...	--	--	--	--	--	--	21	88	76
NOV									
08...	--	--	--	39000	--	--	219	13200	91
DEC									
20...	--	--	--	--	--	--	--	--	--
JAN									
17...	ND	ND	ND	--	--	--	15	567	100
30...	--	--	--	--	--	--	99	11800	90
MAR									
14...	--	--	--	5400	--	--	107	7690	92
APR									
11...	--	--	ND	--	--	--	17	753	100
11-30	--	--	--	--	15.0	17.3	--	--	--
MAY									
01-10	--	--	--	--	15.0	17.3	--	--	--
10...	--	--	--	5400	--	--	23	963	84
15...	--	--	--	6900	--	--	--	--	--
JUL									
11...	--	--	--	23000	--	--	30	724	98
11-31	--	--	--	--	2.76	3.46	--	--	--
AUG									
01-15	--	--	--	--	2.76	3.46	--	--	--
15...	--	--	--	0	--	--	91	3860	--
16...	--	--	ND	--	--	--	--	--	--
SEP									
12...	--	--	--	--	--	--	25	--	100
12...	--	--	--	0	--	--	--	--	--

ND NOT DECTECTED

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	244	224	234	---	---	---	---	---	---	329	304	316
2	244	226	233	---	---	---	---	---	---	358	329	342
3	244	231	239	---	---	---	306	245	268	388	349	364
4	255	242	247	---	---	---	358	306	341	405	388	398
5	267	248	258	---	---	---	355	331	342	405	396	401
6	274	257	265	---	---	---	326	304	314	426	402	374
7	290	259	271	---	---	---	327	300	310	391	320	354
8	294	278	284	---	---	---	317	234	266	319	284	297
9	309	280	293	---	---	---	229	192	200	295	284	288
10	313	292	300	---	---	---	197	177	185	301	295	299
11	313	292	302	---	---	---	216	197	209	302	299	301
12	313	299	305	---	---	---	213	207	209	314	302	310
13	---	---	---	---	---	---	213	198	209	321	311	316
14	---	---	---	---	---	---	231	213	225	331	321	327
15	---	---	---	---	---	---	254	227	238	353	331	337
16	---	---	---	---	---	---	255	244	250	364	348	359
17	---	---	---	---	---	---	249	244	246	367	356	363
18	---	---	---	318	302	309	254	246	251	368	359	364
19	---	---	---	326	297	304	258	248	251	374	363	369
20	---	---	---	311	306	308	261	258	260	373	369	185
21	330	317	322	309	295	299	266	258	262	394	373	385
22	328	313	319	298	294	292	268	266	267	401	394	398
23	322	288	303	295	272	282	301	268	296	398	391	394
24	338	317	324	283	275	278	302	296	300	410	391	399
25	335	317	323	294	277	285	304	289	297	418	410	415
26	333	319	322	300	294	297	292	278	286	417	405	411
27	340	318	324	310	300	306	285	278	286	407	398	401
28	---	---	---	314	309	311	300	284	293	414	403	408
29	---	---	---	317	304	311	324	300	312	433	414	423
30	---	---	---	315	311	313	325	205	316	444	433	440
31	---	---	---	338	309	323	317	300	309	---	---	---
MONTH	340	224	288	338	272	301	358	177	269	444	284	358

PH (UNITS), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	9.1	8.9	9.0	---	---	---	---	---	---	8.2	7.9	8.0
2	9.0	7.0	8.8	---	---	---	---	---	---	8.5	8.0	8.2
3	8.9	8.7	8.8	---	---	---	8.1	7.8	7.9	8.5	8.2	8.4
4	8.9	8.6	8.7	---	---	---	8.2	8.1	8.1	8.4	8.2	8.3
5	8.9	8.7	8.8	---	---	---	8.3	6.1	8.1	8.5	8.2	8.3
6	8.9	8.6	8.8	---	---	---	8.1	8.0	8.1	8.3	8.2	8.3
7	8.7	8.5	8.6	---	---	---	8.1	8.0	8.0	9.0	8.4	8.6
8	8.6	8.3	8.5	---	---	---	7.9	7.7	7.8	8.7	8.1	8.4
9	8.6	8.3	8.4	---	---	---	7.8	7.7	7.7	8.6	8.0	8.2
10	8.7	8.2	8.5	---	---	---	7.8	7.8	7.8	8.4	7.9	8.1
11	8.7	8.5	8.6	---	---	---	7.8	7.8	7.8	8.4	8.0	8.2
12	8.5	8.4	8.5	8.5	8.2	8.4	7.8	7.8	7.8	8.6	8.1	8.3
13	---	---	---	8.2	8.1	8.2	7.9	7.8	7.8	8.4	8.1	8.3
14	---	---	---	---	---	---	7.9	7.8	7.8	8.3	8.1	8.2
15	---	---	---	---	---	---	8.0	7.8	7.9	8.5	8.0	8.2
16	---	---	---	---	---	---	8.0	7.9	7.9	8.7	8.2	8.4
17	---	---	---	---	---	---	7.9	7.9	7.9	8.6	8.2	8.4
18	---	---	---	8.7	8.6	8.7	8.0	7.9	8.0	8.8	8.2	8.5
19	---	---	---	8.9	8.6	8.7	8.0	8.0	8.0	8.7	8.2	8.4
20	---	---	---	8.8	8.5	8.7	8.2	8.0	8.1	8.6	7.5	8.3
21	8.5	8.1	8.4	8.9	8.6	8.7	8.2	8.0	8.1	8.4	8.0	8.2
22	8.5	7.9	8.2	8.8	8.4	8.6	8.5	8.1	8.3	8.3	8.0	8.1
23	8.2	7.8	8.0	8.7	8.2	8.4	8.7	8.4	8.5	8.2	8.1	8.1
24	8.5	8.1	8.3	8.6	8.0	8.3	8.8	8.3	8.6	8.3	8.0	8.2
25	8.6	8.2	8.4	8.4	7.9	8.1	9.1	8.6	8.7	8.5	8.2	8.3
26	8.6	8.3	8.4	8.5	7.9	8.2	9.0	8.5	8.8	8.6	8.3	8.4
27	8.7	8.1	8.4	8.7	8.0	8.3	8.8	8.4	8.6	8.6	8.3	8.5
28	---	---	---	8.8	8.2	8.5	8.6	8.1	8.3	8.5	8.4	8.5
29	---	---	---	8.8	8.2	8.5	8.7	8.0	8.3	8.6	8.4	8.5
30	---	---	---	8.7	8.3	8.5	8.7	8.3	8.5	8.6	8.4	8.5
31	---	---	---	8.6	8.2	8.4	8.4	7.9	8.1	---	---	---
MONTH	9.1	7.0	8.5	8.9	7.9	8.5	9.1	6.1	8.1	9.0	7.5	8.3

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	25.5	24.0	24.5	---	---	---	---	---	---	27.5	26.5	27.0
2	26.5	25.0	25.5	---	---	---	---	---	---	27.0	26.0	26.5
3	26.0	25.0	26.0	---	---	---	26.5	25.0	25.5	27.0	26.0	26.5
4	25.0	24.5	24.5	---	---	---	26.5	25.5	26.0	26.5	25.5	26.0
5	24.5	24.0	24.0	---	---	---	26.5	25.5	26.0	26.5	25.0	26.0
6	24.5	24.0	24.0	---	---	---	27.0	26.5	26.5	25.5	25.0	25.5
7	24.5	24.0	24.0	---	---	---	27.0	26.5	27.0	28.0	26.0	26.5
8	24.5	24.0	24.0	---	---	---	27.0	26.0	26.5	28.0	26.0	27.0
9	26.0	24.0	24.5	---	---	---	26.0	24.5	25.0	28.0	26.5	27.0
10	26.0	20.0	24.5	---	---	---	25.5	24.0	25.0	27.0	26.0	26.5
11	26.5	24.5	25.5	---	---	---	26.0	25.0	25.5	26.5	25.5	26.0
12	25.5	25.0	25.0	26.0	25.0	25.5	26.0	25.5	26.0	27.0	25.5	26.0
13	---	---	---	25.5	25.0	25.5	26.0	25.0	25.5	26.0	25.0	25.5
14	---	---	---	---	---	---	26.5	25.5	25.5	25.0	23.5	24.0
15	---	---	---	---	---	---	27.5	26.5	27.0	24.0	22.5	23.5
16	---	---	---	---	---	---	28.0	27.0	27.5	25.0	23.0	24.0
17	---	---	---	---	---	---	28.0	27.5	28.0	25.5	24.0	24.5
18	---	---	---	26.5	25.5	26.0	28.5	27.5	28.0	26.5	24.5	25.5
19	---	---	---	27.0	25.5	26.5	29.0	28.0	28.5	27.0	26.0	26.5
20	---	---	---	27.5	26.0	27.0	29.0	28.0	28.5	26.5	25.5	26.0
21	29.0	27.5	28.0	29.0	26.5	27.5	28.0	26.5	27.5	26.0	25.5	26.0
22	28.0	26.5	27.5	30.0	28.0	29.0	28.0	26.0	27.0	25.5	25.0	25.5
23	27.0	26.0	26.5	31.0	28.5	30.0	28.0	26.0	27.0	25.0	24.0	24.5
24	28.0	26.5	27.0	31.0	29.0	30.0	28.0	26.5	27.5	24.0	22.5	23.0
25	28.0	26.5	27.0	29.5	28.0	29.0	28.0	27.0	28.0	23.0	22.0	22.5
26	27.5	26.5	27.0	28.5	27.0	27.5	28.0	27.5	28.5	22.5	21.0	21.5
27	28.5	26.5	27.5	28.5	26.5	27.5	28.0	27.5	28.0	21.5	20.5	21.5
28	---	---	---	28.5	26.5	27.5	28.0	27.5	28.0	21.5	20.5	21.0
29	---	---	---	28.0	26.0	27.0	28.0	27.5	28.5	21.0	19.5	20.5
30	---	---	---	28.0	26.5	27.0	27.5	28.0	28.5	20.5	19.5	20.0
31	---	---	---	27.0	26.0	26.5	28.0	28.0	27.5	---	---	---
MONTH	29.0	20.0	25.5	31.0	25.0	27.5	29.0	24.0	27.0	28.0	19.5	24.5

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	---	---	---	---	---	---	8.3	7.6	8.0
2	---	---	---	---	---	---	---	---	---	8.9	7.9	8.4
3	---	---	---	---	---	---	8.5	8.0	8.2	9.0	7.7	8.4
4	---	---	---	---	---	---	8.4	7.8	8.1	8.9	7.9	8.4
5	---	---	---	---	---	---	9.0	8.1	8.4	9.1	7.9	8.5
6	---	---	---	---	---	---	8.8	8.1	8.4	8.3	7.0	8.5
7	---	---	---	---	---	---	8.8	8.2	8.5	9.2	7.9	8.4
8	---	---	---	---	---	---	9.0	7.9	8.4	8.3	7.6	7.8
9	---	---	---	---	---	---	8.6	7.9	8.2	8.3	7.4	7.7
10	---	---	---	---	---	---	9.7	7.5	8.8	8.2	7.5	7.8
11	---	---	---	---	---	---	9.2	8.6	9.1	8.9	7.6	8.3
12	---	---	---	9.9	8.9	9.6	8.8	8.5	8.7	8.7	7.8	8.2
13	---	---	---	9.4	8.5	8.8	9.0	8.5	8.7	8.4	7.6	8.0
14	---	---	---	---	---	---	9.2	8.6	8.9	8.8	7.9	8.4
15	---	---	---	---	---	---	8.8	8.4	8.6	9.3	8.4	8.8
16	---	---	---	---	---	---	8.6	8.3	8.5	9.5	8.4	8.8
17	---	---	---	---	---	---	8.5	8.2	8.3	9.3	8.2	8.6
18	---	---	---	11.2	10.2	10.9	8.5	8.1	8.3	9.3	8.0	8.5
19	---	---	---	10.0	4.6	6.3	8.3	8.1	8.2	8.8	7.8	8.2
20	---	---	---	10.0	8.2	9.1	8.4	7.9	8.2	8.7	4.9	7.8
21	8.0	7.2	7.6	9.6	8.1	8.9	8.7	8.1	8.4	8.6	7.8	8.2
22	8.3	7.0	7.6	8.4	7.5	7.9	9.0	8.3	8.6	8.3	7.7	7.9
23	7.9	7.2	7.5	7.9	7.0	7.4	9.0	8.2	8.6	8.3	7.7	8.0
24	8.5	7.1	7.8	7.9	7.0	7.4	9.1	8.1	8.5	8.8	8.1	8.4
25	8.5	7.1	7.8	7.9	7.1	7.4	9.5	7.9	8.5	9.1	8.4	8.7
26	8.3	7.1	7.6	8.3	7.3	7.7	8.8	7.6	8.7	9.3	8.7	9.0
27	8.7	7.1	7.8	8.8	7.5	8.0	8.3	7.6	7.8	9.3	8.7	9.0
28	---	---	---	8.3	4.9	7.5	8.4	7.5	7.8	9.4	8.7	9.0
29	---	---	---	9.2	3.5	7.7	8.6	7.6	8.1	10.1	9.0	9.5
30	---	---	---	8.8	7.6	8.1	8.3	7.4	7.8	9.8	9.2	9.5
31	---	---	---	8.7	7.4	8.0	8.0	7.4	7.7	---	---	---
MONTH	8.7	7.0	7.7	11.2	3.5	8.3	9.7	7.4	8.4	10.1	4.9	8.4

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO JULY 1978

DATE	NOV 8,77		MAR 14,78		MAY 10,78		MAY 15,78		JUL 11,78	
TIME	1030		1000		0900		1045		1000	
TOTAL CELLS/ML	39000		5400		5400		6900		23000	
DIVERSITY: DIVISION	1.0		0.0		1.2		0.3		1.4	
.CLASS	1.0		0.0		1.2		0.4		1.4	
..ORDER	1.5		0.2		2.0		1.0		1.8	
...FAMILY	2.1		2.5		2.8		2.8		2.3	
....GENUS	2.5		2.5		2.9		3.3		3.1	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...HYDRODICTYACEAE										
....PEDIASTRUM	2200	5	--	-	--	-	--	-	--	-
...MICRACTINIACEAE										
....MICRACTINIUM	--	-	--	-	--	-	290	4	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	1300	3	--	-	470	9	--	-	990	4
....CHODATELLA	--	-	--	-	--	-	--	-	280	1
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-	1700	7
....KIRCHNERIELLA	--	-	--	-	--	-	--	-	4900#	22
....OOCYSTIS	--	-	--	-	--	-	--	-	560	2
....TETRAEDRON	--	-	--	-	--	-	--	-	420	2
...SCENEDESMACEAE										
....ACTINASTRUM	--	-	--	-	190	3	--	-	--	-
....SCENEDESMUS	16000#	40	--	-	--	-	140	2	2000	9
....TETRASTRUM	--	-	--	-	--	-	--	-	560	2
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	--	-	190	3	--	-	850	4
..ZYGNEMATALES										
...DESMIDIACEAE										
....COSMARIUM	--	-	--	-	93	2	--	-	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	10000#	25	210	4	1100#	21	210	3	6800#	30
....MELOSIRA	--	-	--	-	--	-	790	11	--	-
....STEPHANODISCUS	3500	9	--	-	--	-	--	-	--	-
..PENNALES										
...ACHNANTHACEAE										
....ACHNANTHES	--	-	--	-	--	-	--	-	560	2
....RHOICOSPHENIA	--	-	--	-	--	-	140	2	--	-
...CYMBELLACEAE										
....CYMBELLA	--	-	53	1	93	2	210	3	--	-
...DIATOMACEAE										
....DIATOMA	270	1	320	6	--	-	360	5	140	1
...FRAGILARIACEAE										
....SYNEDRA	1600	4	1100#	21	--	-	1000	14	--	-
...GOMPHONEMATACEAE										
....GOMPHONEMA	--	-	1900#	35	--	-	290	4	140	1
...NAVICULACEAE										
....NAVICULA	2700	7	800	15	230	4	1100#	15	420	2
....NEIDIUM	2200	5	--	-	890#	17	1400#	21	--	-
...NITZSCHIACEAE										
....NITZSCHIA	--	-	690	13	1400#	27	860	12	140	1
...SURIRELLACEAE										
....SURIRELLA	--	-	320	6	47	1	72	1	--	-
.CHRYSOPHYCEAE										
..CHRYSOMONADALES										
...OCHROMONADACEAE										
....DINOBRYON	--	-	--	-	--	-	72	1	--	-
CRYPTOPHYTA (CRYPTOMONADS)										
.CRYPTOPHYCEAE										
..CRYPTOMONIDALES										
...CRYPTOMONODACEAE										
....CRYPTOMONAS	--	-	--	-	--	-	--	-	140	1
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....ANACYSTIS	--	-	--	-	560	10	--	-	2100	9
EUGLENOPHYTA (EUGLENOIDS)										
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--	-	--	-	47	1	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

01646550 LITTLE FALLS BRANCH NEAR BETHESDA, MD

LOCATION.--Lat 38°57'27", long 77°06'31", Montgomery County, Hydrologic Unit 02070008, on left bank at downstream side of bridge on Massachusetts Avenue, 0.3 mi (0.5 km) downstream from Willett Branch, 1.7 mi (2.7 km) upstream from mouth, and 2.0 mi (3.2 km) southwest of Bethesda.

DRAINAGE AREA.--4.1 mi² (10.6 km²), approximately.

PERIOD OF RECORD.--June 1944 to September 1959. Annual maximum, water years 1960-61. December 1961 to current year.

REVISED RECORDS.--WSP 1171: 1945.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 169.32 ft (51.609 m) Maryland State Highway Administration datum. Prior to Oct. 1959, water-stage recorder and concrete control at site 50 ft (15 m) upstream at same datum. Oct. 1, 1959, to Nov. 30, 1961, crest-stage gage at present site and datum.

REMARKS.--Records good. Occasional slight regulation at low flow from unknown source above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years (water years 1945-59, 1963-78), 3.36 ft³/s (0.095 m³/s), 11.13 in/yr (283 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,680 ft³/s (75.9 m³/s) Sept. 14, 1966, gage height, 6.82 ft (2.079 m), from rating curve extended above 630 ft³/s (17.8 m³/s) on basis of slope-area measurement at gage height 5.92 ft (1.804 m); no flow at times in 1944, 1954, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 555 ft³/s (15.7 m³/s) Aug. 30, gage height 3.28 ft (1.000 m), no other peak above base of 450 ft³/s (12 m³/s); minimum daily discharge, 0.75 ft³/s (0.021 m³/s) Oct. 12

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	1.0	9.1	2.2	2.4	2.2	2.4	2.0	2.2	1.3	6.1	1.7
2	.89	1.2	2.0	1.8	2.5	1.8	2.2	1.8	2.3	2.2	13	1.4
3	.83	15	1.6	1.6	2.4	2.2	2.4	1.8	4.0	12	2.0	1.3
4	.82	11	1.5	1.4	2.2	2.9	2.4	21	2.0	2.6	5.4	1.4
5	.83	1.4	7.4	1.4	2.1	2.1	2.3	5.7	3.4	2.1	17	1.7
6	1.1	25	2.4	1.5	2.1	1.9	2.2	2.2	2.8	1.9	2.1	1.4
7	.80	14	1.4	1.5	2.3	1.9	2.7	1.9	1.9	1.8	3.5	1.3
8	.92	12	1.4	15	2.5	2.4	2.0	6.2	6.8	1.6	1.9	1.3
9	21	1.8	2.8	34	2.3	3.6	1.9	17	2.0	1.6	3.2	1.3
10	.93	7.8	1.3	2.4	2.1	19	2.1	2.2	1.7	5.0	3.3	1.2
11	.77	1.9	1.2	2.4	2.1	11	2.2	2.1	1.6	2.1	7.2	1.3
12	.75	1.4	1.3	2.3	2.1	5.3	2.1	2.0	1.6	1.5	16	3.7
13	.77	1.2	1.6	11	2.0	3.9	2.0	13	9.5	1.4	11	3.3
14	24	1.2	7.9	22	3.2	9.1	1.9	15	1.6	1.4	2.8	1.3
15	4.9	1.2	2.1	3.0	2.7	3.2	1.9	34	1.7	1.4	2.1	1.4
16	9.1	1.2	1.5	2.2	2.1	5.7	1.8	73	1.6	16	1.9	3.4
17	5.2	4.6	1.6	30	2.4	2.8	2.0	28	1.6	2.3	1.7	1.6
18	.94	1.3	85	13	2.4	2.2	6.4	11	1.6	1.9	1.7	1.4
19	1.9	1.2	17	3.2	2.4	2.2	12	6.5	2.0	2.0	1.6	1.5
20	1.0	1.0	9.5	3.0	2.2	2.0	3.0	4.4	4.0	1.9	1.4	1.4
21	.94	2.4	22	2.7	2.4	2.1	2.2	3.2	10	1.7	1.5	1.4
22	.85	4.8	3.1	2.4	2.0	2.2	1.9	2.6	2.8	1.5	1.5	3.1
23	.79	10	2.6	2.3	2.3	2.0	1.9	3.1	1.5	1.5	1.6	1.5
24	.85	1.7	2.3	2.3	2.4	2.0	1.9	3.0	1.3	2.5	1.5	1.2
25	.88	8.3	3.3	72	3.2	6.3	1.9	2.4	1.3	2.5	1.5	1.3
26	51	5.7	1.9	30	2.3	55	8.9	2.3	1.3	1.5	1.5	1.2
27	8.8	1.6	1.8	5.0	2.1	17	2.0	2.2	6.0	1.7	4.6	1.2
28	1.4	1.6	1.8	3.5	2.0	3.8	1.9	2.0	2.0	7.2	2.2	1.2
29	1.2	8.7	1.8	3.0	---	3.0	1.9	2.0	7.0	1.4	1.6	1.1
30	1.1	14	2.5	2.7	---	2.7	1.8	2.3	1.7	2.5	10	1.1
31	1.0	---	2.0	2.5	---	2.6	---	2.3	---	10	8.1	---
TOTAL	148.56	165.2	204.7	283.3	65.2	186.1	84.2	278.2	90.8	98.0	140.5	48.6
MEAN	4.79	5.51	6.60	9.14	2.33	6.00	2.81	8.97	3.03	3.16	4.53	1.62
MAX	51	25	85	72	3.2	55	12	73	10	16	17	3.7
MIN	.75	1.0	1.2	1.4	2.0	1.8	1.8	1.8	1.3	1.3	1.4	1.1
CFSM	1.17	1.34	1.61	2.23	.57	1.46	.69	2.19	.74	.77	1.11	.40
IN.	1.35	1.50	1.86	2.57	.59	1.69	.76	2.52	.82	.89	1.27	.44

CAL YR 1977 TOTAL 1198.25 MEAN 3.28 MAX 85 MIN .75 CFSM .80 IN 10.87
WTR YR 1978 TOTAL 1793.36 MEAN 4.91 MAX 85 MIN .75 CFSM 1.20 IN 16.27

01648000 ROCK CREEK AT SHERRILL DRIVE, WASHINGTON, DC

LOCATION.--Lat 38°58'21", long 77°02'25", District of Columbia, Hydrologic Unit 02070010, on left bank 125 ft (38 m) downstream from Sherrill Drive Bridge in Rock Creek Park in Washington, and 7.5 mi (12 km) upstream from mouth.

DRAINAGE AREA.--62.2 mi^2 (161.1 km^2).

PERIOD OF RECORD.--October 1929 to current year.

REVISED RECORDS.--WSP 1432: 1933(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 148.87 ft (45.376 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow affected by two upstream reservoirs which control flow from about 25 mi^2 (65 km^2), Needwood Lake on Rock Creek since Sept. 1966 and Bernard Frank Lake on North Branch Rock Creek since February 1968. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--49 years, 61.0 ft^3/s (1.728 m^3/s), 13.32 in/yr (338 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,500 ft^3/s (354 m^3/s) June 22, 1972, gage height, 16.2 ft (4.94 m), from floodmark, from rating curve extended above 5,640 ft^3/s (160 m^3/s) on basis of contracted-opening measurements at gage heights 13.19 ft (4.020 m) and 16.2 ft (4.94 m); minimum, 0.5 ft^3/s (0.014 m^3/s) Oct. 1-7, 1930, gage height, 1.04 ft (0.317 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft^3/s (34 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 18	1515	1800	51.0	7.32	2.231
Jan. 26	1115	*2700	76.5	9.25	2.819
Mar. 26	2045	1560	44.2	6.72	2.048
Aug. 1	0930	1360	38.5	6.16	1.878
Aug. 13	2345	1340	37.9	6.10	1.859

Minimum discharge, 6.5 ft^3/s (0.18 m^3/s) Oct. 3, 4, 5, gage height, 1.19 ft (0.363 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	21	201	60	135	43	98	39	65	29	637	38
2	15	19	63	59	122	42	89	39	60	87	117	31
3	7.2	79	50	55	115	41	81	37	60	426	74	29
4	7.1	173	43	55	108	42	74	151	60	100	74	27
5	6.6	36	73	52	104	42	70	117	54	72	303	26
6	7.6	91	58	51	96	39	66	65	53	63	60	25
7	11	269	39	51	92	38	70	50	52	53	65	24
8	7.5	168	35	127	88	40	61	60	147	46	156	23
9	151	57	37	442	86	45	59	178	69	45	61	23
10	24	68	35	93	84	109	68	86	49	139	80	21
11	10	97	35	80	82	115	67	53	45	102	70	22
12	8.5	42	32	70	76	103	65	49	43	35	178	23
13	7.9	35	32	87	64	92	59	79	86	27	400	56
14	84	31	62	308	60	149	56	230	39	26	171	23
15	144	29	73	96	59	108	54	494	36	25	65	24
16	28	28	38	74	57	105	54	629	29	259	55	52
17	108	39	35	176	54	95	53	264	30	52	50	48
18	20	31	1090	359	53	80	55	172	28	26	46	25
19	15	26	422	115	52	72	114	147	27	24	43	25
20	14	25	171	100	50	66	95	137	31	23	40	24
21	13	30	329	88	49	64	53	128	38	21	38	24
22	13	35	141	77	49	67	51	120	111	22	36	26
23	11	139	114	71	48	59	48	113	51	21	34	25
24	11	44	106	70	45	56	46	114	44	20	33	22
25	11	45	114	566	45	59	44	102	35	40	31	23
26	292	120	96	1720	52	816	79	94	31	29	31	22
27	238	42	88	442	49	339	45	87	54	25	30	23
28	45	37	76	223	48	144	43	81	79	46	55	23
29	32	70	70	164	---	123	41	77	57	25	30	21
30	24	83	63	151	---	112	40	72	89	25	43	21
31	22	---	66	140	---	104	---	68	---	125	277	---
TOTAL	1401.4	2009	3887	6222	2022	3409	1898	4132	1652	2058	3383	819
MEAN	45.2	67.0	125	201	72.2	110	63.3	133	55.1	66.4	109	27.3
MAX	292	269	1090	1720	135	816	114	629	147	426	637	56
MIN	6.6	19	32	51	45	38	40	37	27	20	30	21
CFSM	.73	1.08	2.01	3.23	1.16	1.77	1.02	2.14	.89	1.07	1.75	.44
IN.	.84	1.20	2.32	3.72	1.21	2.04	1.14	2.47	.99	1.23	2.02	.49

CAL YR 1977 TOTAL 18563.7 MEAN 50.9 MAX 1090 MIN 6.6 CFSM .82 IN 11.10
WTR YR 1978 TOTAL 32892.4 MEAN 90.1 MAX 1720 MIN 6.6 CFSM 1.45 IN 19.67

01649500 NORTHEAST BRANCH ANACOSTIA RIVER AT RIVERDALE, MD

LOCATION.--Lat 38°57'37", long 76°55'34", Prince Georges County, Hydrologic Unit 02070010, on right bank 200 ft (61 m) downstream from bridge on Riverdale Road, 1.8 mi (2.9 km) downstream from Indian Creek, and 1.8 mi (2.9 km) upstream from confluence with Northwest Branch.

DRAINAGE AREA.--72.8 mi^2 (188.6 km^2).

PERIOD OF RECORD.--August 1938 to current year.

REVISED RECORDS.--WDR MD-DE-75-1: 1972(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 12.68 ft (3.865 m) Washington Suburban Sanitary Commission datum. Prior to June 12, 1942, nonrecording gage; June 12, 1942, to Mar. 22, 1966, and Apr. 12, 1967, to Sept. 3, 1969, water-stage recorder, all at bridge at datum 14.00 ft (4.267 m) above mean sea level. Mar. 23, 1966, to Apr. 11, 1967, nonrecording gage 600 ft (183 m) downstream from bridge at datum 9.25 ft (2.819 m) above mean sea level.

REMARKS.--Records good except for period of no gage-height record July 20 to Sept. 7, which is fair. Some regulation at low flow by sand and gravel plants above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--40 years, 83.9 ft^3/s (2.376 m^3/s), 15.65 in/yr (398 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,000 ft^3/s (340 m^3/s) June 22, 1972, gage height, 9.52 ft (2.902 m), from rating curve extended above 3,800 ft^3/s (108 m^3/s) on basis of the average of contracted-opening and slope-area measurements at gage height 9.52 ft (2.902 m); maximum gage height, 12.93 ft (3.941 m) Oct. 16, 1942; minimum daily discharge, 1.4 ft^3/s (0.040 m^3/s) Sept. 12, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 23 or 24, 1933, reached a stage of about 15.5 ft (4.72 m), at datum 14.00 ft (4.267 m) above mean sea level, from floodmarks, discharge, 10,500 ft^3/s (297 m^3/s), from rating curve extended above 3,000 ft^3/s (85.0 m^3/s) on basis of velocity-area study.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft^3/s (56 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 18	1045	5350	152	8.04	2.451
Jan. 9	0330	2790	79.0	5.85	1.783
Jan. 26	0445	*6410	182	8.71	2.655
Mar. 26	1530	4060	115	7.00	2.134
Mar. 27	1515	2190	62.0	5.25	1.600
May 15	0945	4800	136	7.63	2.326
May 16	0130	4440	126	7.32	2.231

Minimum daily discharge, 8.8 ft^3/s (0.25 m^3/s) Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	29	389	60	99	55	90	30	40	22	700	44
2	18	30	111	55	89	54	75	29	37	118	120	30
3	11	69	68	55	84	52	68	29	62	581	50	26
4	9.1	103	56	50	75	52	67	235	47	145	50	24
5	8.8	51	83	45	75	50	59	223	35	47	500	22
6	9.5	220	85	50	75	48	68	95	30	33	70	22
7	11	420	54	55	70	48	60	55	34	27	40	22
8	11	279	46	180	70	57	53	76	66	24	130	22
9	190	79	44	1200	70	77	50	468	47	23	55	20
10	42	86	42	199	70	202	50	195	30	198	100	20
11	20	95	40	88	70	248	53	69	27	65	240	19
12	15	48	38	63	65	227	50	46	25	30	320	26
13	13	39	36	116	65	204	49	70	70	26	450	111
14	207	33	111	503	65	273	48	313	29	25	150	27
15	200	32	140	198	65	246	43	1870	24	27	60	27
16	58	32	80	94	65	187	39	2440	24	75	40	53
17	135	48	70	267	65	178	37	622	38	39	34	41
18	40	38	2690	461	65	113	41	235	31	28	30	23
19	28	31	1430	172	65	87	158	155	28	26	28	22
20	24	27	338	159	67	71	116	112	36	24	28	19
21	22	30	484	100	67	72	58	86	67	22	26	17
22	19	39	182	77	65	86	46	68	36	20	24	30
23	19	178	100	66	60	65	40	64	24	20	22	26
24	17	70	85	72	55	59	39	143	21	20	22	20
25	16	83	95	1050	60	62	36	82	20	32	22	19
26	416	212	75	3430	80	1540	78	55	20	28	24	17
27	371	66	65	427	70	1240	44	49	48	24	30	16
28	89	45	60	213	60	296	39	51	33	70	48	15
29	48	81	60	173	---	183	35	49	93	22	26	14
30	37	149	75	141	---	120	32	46	51	24	60	14
31	32	---	70	109	---	99	---	43	---	100	250	---
TOTAL	2150.4	2742	7302	9928	1951	6351	1721	8103	1173	1965	3749	808
MEAN	69.4	91.4	236	320	69.7	205	57.4	261	39.1	63.4	121	26.9
MAX	416	420	2690	3430	99	1540	158	2440	93	581	700	111
MIN	8.8	27	36	45	55	48	32	29	20	20	22	14
CFSM	.95	1.26	3.24	4.40	.96	2.82	.79	3.59	.54	.87	1.66	.37
IN.	1.10	1.40	3.73	5.07	1.00	3.25	.88	4.14	.60	1.00	1.92	.41

CAL YR 1977 TOTAL 25577.4 MEAN 70.1 MAX 2690 MIN 8.8 CFSM .96 IN 13.07
WTR YR 1978 TOTAL 47943.4 MEAN 131 MAX 3430 MIN 8.8 CFSM 1.80 IN 24.50

01650500 NORTHWEST BRANCH ANACOSTIA RIVER NEAR COLESVILLE, MD

LOCATION.--Lat 39°03'55", long 77°01'48", Montgomery County, Hydrologic Unit 02070010, on right bank 400 ft (120 m) upstream from bridge on State Highway 183, 1.5 mi (2.4 km) southwest of Colesville, 3 mi (4.8 km) upstream from Burnt Mills, 10 mi (16.1 km) upstream from Sligo Creek, and 12.5 mi (20.1 km) upstream from confluence with Northeast Branch.

DRAINAGE AREA.--21.1 mi^2 (54.6 km^2).

PERIOD OF RECORD.--October 1923 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 1432: 1924(M), 1925-26, 1929-30(M), 1933(M), 1939(P), 1940(M), 1943-46, 1948-49(P). WSP 1903: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 264.85 ft (80.726 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 22, 1932, nonrecording gages in same general vicinity at different datums. Apr. 22, 1932, to Apr. 11, 1934, nonrecording gages at present site and datum.

REMARKS.--Records good. Diversions at low flow since 1962 for irrigation of golf courses above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--55 years, 22.5 ft^3/s (0.637 m^3/s), 14.48 in/yr (368 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft^3/s (312 m^3/s) June 22, 1972, gage height, 15.89 ft (4.843 m), from high-water mark in well, from rating curve extended above 1,200 ft^3/s (34.0 m^3/s) on basis of contracted-opening and flow-over-road measurement at gage height 10.99 ft (3.350 m) and computation of flow over Burnt Mills Dam, 3 miles (4.8 km) downstream, adjusted for flow from intervening area, at gage height 15.89 ft (4.843 m); no flow several days during August and September 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 600 ft^3/s (17 m^3/s) and maximum (*):

Date	Time	Discharge		Gage height		Date	Time	Discharge		Gage height	
		(ft^3/s)	(m^3/s)	(ft)	(m)			(ft^3/s)	(m^3/s)	(ft)	(m)
Dec. 18	1100	1270	36.0	8.26	2.518	May 15	1300	1410	39.9	8.57	2.612
Jan. 9	0530	614	17.4	5.73	1.747	May 16	0200	1240	35.1	8.17	2.490
Jan. 26	0830	*1960	55.5	9.36	2.853	May 16	1500	851	24.1	6.92	2.109
Mar. 26	1700	1150	32.6	7.95	2.423	Aug. 1	0330	1320	37.4	8.36	2.548

Minimum discharge, 1.0 ft^3/s (0.028 m^3/s) Oct. 4, 5, 6, gage height 1.43 ft (0.436 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	6.9	90	15	20	17	23	14	15	10	330	9.0
2	2.7	6.8	24	15	20	16	21	14	14	23	18	7.2
3	1.6	21	17	14	19	16	20	13	16	135	13	6.6
4	1.2	51	15	13	18	16	21	45	15	27	12	6.4
5	1.5	14	22	12	18	16	20	43	13	16	96	5.9
6	1.5	41	21	13	17	15	19	25	12	12	18	5.6
7	2.0	102	14	14	18	15	21	20	13	11	40	5.5
8	2.0	53	12	45	17	15	19	21	44	9.7	34	5.3
9	28	19	12	204	17	16	18	78	22	9.7	14	5.4
10	6.1	24	11	34	17	46	18	36	14	28	17	5.0
11	3.2	27	11	20	16	88	18	22	13	13	11	5.1
12	2.7	14	10	17	16	64	18	19	12	9.3	29	5.8
13	2.4	11	11	26	16	55	17	37	17	8.4	58	18
14	24	10	24	101	17	94	16	96	12	8.4	25	6.0
15	34	10	30	32	17	53	16	472	11	8.8	14	5.9
16	21	9.7	16	24	17	38	15	591	11	20	12	6.8
17	38	12	15	56	16	36	15	75	11	12	10	6.9
18	8.1	10	614	117	17	27	16	44	12	9.3	8.8	5.5
19	6.1	8.9	166	35	18	24	30	33	10	8.0	8.4	5.3
20	5.4	9.0	56	29	19	22	31	27	10	7.2	8.0	5.0
21	4.8	10	126	24	19	21	20	24	14	6.5	7.2	5.5
22	4.9	13	38	22	18	22	17	21	19	6.5	6.8	5.8
23	4.6	53	25	22	17	19	16	21	11	6.1	6.5	5.5
24	4.4	19	22	25	18	18	16	23	9.7	5.8	6.1	5.5
25	4.4	18	24	233	25	19	16	21	9.7	13	6.1	5.1
26	76	49	18	861	25	478	20	18	9.7	8.8	6.1	4.8
27	67	16	18	64	21	155	17	18	11	7.6	8.7	4.8
28	14	14	15	32	18	47	15	18	11	7.2	8.8	5.5
29	9.0	25	14	28	---	33	15	17	29	6.5	6.8	4.4
30	7.7	36	14	24	---	27	15	17	21	6.5	13	4.1
31	7.2	---	16	20	---	24	---	16	---	62	32	---
TOTAL	397.5	713.3	1521	2191	511	1552	559	1939	442.1	522.3	884.3	183.2
MEAN	12.8	23.8	49.1	70.7	18.3	50.1	18.6	62.5	14.7	16.8	28.5	6.11
MAX	76	102	614	861	25	478	31	591	44	135	330	18
MIN	1.2	6.8	10	12	16	15	15	13	9.7	5.8	6.1	4.1
CFSM	.61	1.13	2.33	3.35	.87	2.37	.88	2.96	.70	.80	1.35	.29
IN.	.70	1.26	2.68	3.86	.90	2.74	.99	3.42	.78	.92	1.56	.32

CAL YR 1977 TOTAL 6206.5 MEAN 17.0 MAX 614 MIN 1.2 CFSM .81 IN 10.94
WTR YR 1978 TOTAL 11415.7 MEAN 31.3 MAX 861 MIN 1.2 CFSM 1.48 IN 20.13

01651000 NORTHWEST BRANCH ANACOSTIA RIVER NEAR HYATTSVILLE, MD

LOCATION.--Lat 38°57'09", long 76°58'00", Prince Georges County, Hydrologic Unit 02070010, on right bank at downstream side of bridge on Queens Chapel Road (State Highway 500), 0.8 mi (1.3 km) downstream from Sligo Branch, 1 mi (1.6 km) west of Hyattsville, and 1.6 mi (2.6 km) upstream from confluence with Northeast Branch.

DRAINAGE AREA.--49.4 mi^2 (127.9 km^2).

PERIOD OF RECORD.--July 1938 to current year. Monthly discharge only for July 1938 published in WSP 1302.

REVISED RECORDS.--WSP 971: 1942(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 17.30 ft (5.273 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 22, 1938, nonrecording gage; Oct. 22, 1938, to Sept. 17, 1951, water-stage recorder; Sept. 17, 1951, to Aug. 29, 1952, nonrecording gage and crest-stage gage.

REMARKS.--Records fair. Small diversion since 1962 for irrigation of golf courses above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--40 years, 45.3 ft^3/s (1.283 m^3/s), 12.45 in/yr (316 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,000 ft^3/s (510 m^3/s) June 22, 1972, gage height, 14.47 ft (4.410 m), from rating curve extended above 4,000 ft^3/s (113 m^3/s) on the basis of the average of slope-area and step-back-water measurements at gage height 14.47 ft (4.410 m); minimum, 0.2 ft^3/s (0.006 m^3/s) Sept. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,700 ft^3/s (48 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 18	1015	3210	90.9	5.06	1.542	May 15	1000	2630	74.5	4.46	1.359
Dec. 18	2200	1930	54.7	4.01	1.222	May 16	0215	1920	54.4	3.88	1.183
Jan. 26	0445	*4440	126	5.91	1.801	Aug. 13	1545	2580	73.1	4.42	1.347
Mar. 26	1400	2740	77.6	4.54	1.384						

Minimum daily discharge, 5.0 ft^3/s (0.14 m^3/s) Oct. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	13	221	35	48	31	48	30	34	19	505	23
2	9.8	13	54	34	44	27	45	28	32	76	45	17
3	5.2	102	38	32	40	28	43	33	48	448	27	15
4	5.2	138	31	30	40	28	43	163	35	73	30	14
5	5.1	30	46	28	40	30	42	121	33	32	340	14
6	5.1	150	56	28	96	26	40	54	27	26	37	13
7	5.0	242	28	28	125	24	47	39	26	21	24	12
8	5.0	116	30	127	67	29	41	56	79	20	82	11
9	153	40	27	484	36	35	38	216	58	19	32	11
10	27	66	23	56	35	125	37	99	31	146	51	12
11	9.9	58	20	46	34	149	39	44	27	55	126	11
12	7.3	25	22	42	33	108	39	41	26	18	181	13
13	6.1	19	22	90	32	95	37	94	71	16	290	57
14	117	17	76	280	34	166	36	272	26	16	76	16
15	125	17	66	73	32	105	35	943	22	16	33	13
16	57	16	26	52	31	80	33	1210	20	126	24	58
17	126	20	22	177	31	66	33	184	24	31	21	29
18	27	27	1490	281	34	51	42	96	24	18	18	15
19	17	19	428	76	34	44	114	72	23	15	17	14
20	14	18	133	66	35	41	76	59	24	15	16	13
21	11	17	287	58	33	41	38	51	31	13	16	15
22	9.5	21	82	44	31	44	34	45	39	12	15	21
23	9.2	135	55	42	30	38	33	43	20	12	14	21
24	9.2	54	47	44	30	36	33	62	17	11	13	16
25	9.2	45	56	605	32	37	32	43	17	21	13	13
26	270	121	39	1860	46	1140	69	38	17	18	13	12
27	204	38	34	152	37	445	34	36	50	15	19	8.1
28	35	31	32	82	33	106	31	36	33	55	30	7.8
29	19	53	32	70	---	73	31	35	100	12	14	8.3
30	16	115	34	60	---	58	31	36	70	14	50	6.7
31	14	---	38	54	---	52	---	35	---	119	215	---
TOTAL	1338.9	1776	3595	5136	1173	3358	1274	4314	1084	1508	2387	509.9
MEAN	43.2	59.2	116	166	41.9	108	42.5	139	36.1	48.6	77.0	17.0
MAX	270	242	1490	1860	125	1140	114	1210	100	448	505	58
MIN	5.0	13	20	28	30	24	31	28	17	11	13	6.7
CFSM	.87	1.20	2.35	3.36	.85	2.19	.86	2.81	.73	.98	1.56	.34
IN.	1.01	1.34	2.71	3.87	.88	2.53	.96	3.25	.82	1.14	1.80	.38

CAL YR 1977 TOTAL 15558.0 MEAN 42.6 MAX 1490 MIN 5.0 CFSM .86 IN 11.72
WTR YR 1978 TOTAL 27453.8 MEAN 75.2 MAX 1860 MIN 5.0 CFSM 1.52 IN 20.67

POTOMAC RIVER BASIN

01653500 HENSON CREEK AT OXON HILL, MD

LOCATION.--Lat 38°47'16", long 76°58'42", Prince Georges County, Hydrologic Unit 02070010, on left bank 100 ft (30 m) downstream from bridge on Tucker Road, 1.0 mi (1.6 km) south of Oxon Hill, and 1.4 mi (2.3 km) upstream from Carey Branch and mouth.

DRAINAGE AREA.--16.7 mi² (43.3 km²).

PERIOD OF RECORD.--June 1948 to September 1978 (discontinued).

REVISED RECORDS.--WSP 1232: 1949(M), 1950.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 62 ft (18.9 m), from topographic map.

REMARKS.--Records good. Some diversion above station for irrigation of truck farm. Some regulation at low flow by sand and gravel plant above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--30 years, 19.8 ft³/s (0.561 m³/s), 16.10 in/yr (409 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,440 ft³/s (97.4 m³/s) Aug. 4, 1971, gage height, 7.63 ft (2.326 m), from rating curve extended above 520 ft³/s (14.7 m³/s) on basis of slope-area measurement at gage heights 6.63 ft (2.021 m) and 7.27 ft (2.216 m); no flow at times during some summer months in 1954, 1955, 1957, 1962-64, and 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 450 ft³/s (12 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 6	2215	507	14.4	3.28	1.000
Dec. 18	1315	959	27.2	4.63	1.411
Dec. 19	0200	687	19.5	3.92	1.195
Jan. 9	0630	878	24.9	4.44	1.353
Jan. 17	2115	507	14.4	3.28	1.000
Jan. 25	1545	685	19.4	3.91	1.192
Jan. 26	0545	1840	52.1	6.18	1.884

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Mar. 26	1715	758	21.5	4.14	1.262
May 15	1115	724	20.5	4.05	1.234
May 16	0330	481	13.6	3.19	0.972
May 16	1445	564	16.0	3.48	1.061
Aug. 1	0230	2110	59.8	6.50	1.981
Aug. 5	0700	*2340	66.3	6.76	2.060
Aug. 31	Unknown	Unknown		Unknown	

Minimum daily, 0.30 ft³/s (0.008 m³/s) Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.60	5.8	107	15	24	12	21	7.9	10	5.8	485	140
2	3.6	6.6	21	13	22	11	18	8.5	9.2	11	26	40
3	1.8	48	16	11	20	12	16	8.1	29	170	11	20
4	.60	50	13	10	18	13	17	119	15	24	52	10
5	.30	11	24	11	18	12	16	47	9.8	10	595	8.0
6	.40	84	19	11	17	12	15	23	9.2	8.3	61	6.5
7	.49	122	13	11	17	12	15	16	8.1	7.0	30	5.6
8	.59	32	12	67	18	13	8.4	24	8.7	6.5	19	5.2
9	56	14	13	316	18	17	7.3	132	8.1	5.9	13	5.2
10	5.1	34	11	28	19	96	7.0	29	7.6	25	26	4.8
11	2.7	32	10	22	18	45	11	19	7.0	15	11	4.4
12	2.3	12	9.1	17	16	29	14	17	6.0	5.6	42	4.4
13	1.7	9.2	9.1	43	17	21	10	26	28	4.7	53	15
14	104	8.1	34	128	16	54	8.6	90	6.5	4.6	32	4.8
15	44	7.6	37	32	17	29	8.0	315	6.0	5.6	14	5.6
16	17	7.0	14	20	16	25	7.6	329	5.6	5.3	11	5.6
17	32	67	13	116	16	24	7.1	72	11	5.0	8.2	7.7
18	6.9	22	500	125	17	18	9.0	36	8.7	4.1	6.4	4.4
19	5.1	12	285	34	16	16	31	28	5.6	3.8	6.4	3.6
20	4.4	10	72	51	15	14	32	24	6.5	3.4	5.5	3.3
21	3.9	9.3	102	43	14	14	14	20	40	3.3	4.5	3.3
22	3.9	25	37	25	14	18	12	17	18	3.2	4.4	7.6
23	3.5	73	27	22	14	14	12	16	6.1	3.1	4.6	11
24	3.3	21	23	22	13	13	10	20	5.6	2.6	4.4	4.8
25	3.0	55	24	323	13	15	11	16	5.0	5.2	3.9	4.0
26	160	89	18	677	13	329	28	14	4.5	3.8	4.1	2.7
27	77	17	16	73	12	178	15	13	47	2.7	5.0	3.3
28	11	13	15	40	12	42	12	14	29	6.5	22	3.0
29	7.8	27	13	30	---	30	11	13	10	3.2	4.8	2.7
30	6.8	52	15	28	---	24	9.3	12	17	4.0	4.4	3.0
31	5.8	---	25	26	---	22	---	11	---	23	500	---
TOTAL	575.58	975.6	1552.2	2390	460	1184	413.3	1536.5	387.8	391.2	2069.6	349.5
MEAN	18.6	32.5	50.1	77.1	16.4	38.2	13.8	49.6	12.9	12.6	66.8	11.7
MAX	160	122	500	677	24	329	32	329	47	170	595	140
MIN	.30	5.8	9.1	10	12	11	7.0	7.9	4.5	2.6	3.9	2.7
CFSM	1.11	1.95	3.00	4.62	.98	2.29	.83	2.97	.77	.75	4.00	.70
IN.	1.28	2.17	3.46	5.32	1.02	2.64	.92	3.42	.86	.87	4.61	.78

CAL YR 1977 TOTAL 5542.82 MEAN 15.2 MAX 500 MIN .30 CFSM .91 IN 12.35
WTR YR 1978 TOTAL 12285.28 MEAN 33.7 MAX 677 MIN .30 CFSM 2.02 IN 27.36

01653600 PISCATAWAY CREEK AT PISCATAWAY, MD

LOCATION.--Lat 38°42'20", long 76°58'00", Prince Georges County, Hydrologic Unit 02070010, on left bank 75 ft (23 m) downstream from bridge on State Highway 223, at Piscataway, 0.4 mi (0.6 km) upstream from Tinker Creek, and 4.8 mi (7.7 km) upstream from mouth.

DRAINAGE AREA.--39.5 mi² (102.3 km²).

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 10 ft (3 m), from topographic map.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--13 years, 47.8 ft³/s (1.354 m³/s), 16.43 in/yr (417 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,000 ft³/s (142 m³/s) Sept. 26, 1975, gage height, 10.48 ft (3.194 m), from rating curve extended above 1,700 ft³/s (48.1 m³/s) on basis of contracted-opening measurement of peak flow at bridge 100 ft (30 m) upstream; no flow at times in 1966, 1970, and 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 450 ft³/s (12 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 19	0830	1060	30.0	7.41	2.259	Jan. 26	1000	*2620	74.2	9.17	2.795
Jan. 9	1530	901	25.5	7.12	2.170	Mar. 27	1230	875	24.8	7.07	2.155
Jan. 18	1400	500	14.2	5.99	1.826	May 16	2100	760	21.5	6.83	2.082

No flow Oct. 1-9, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	7.2	175	57	79	41	78	35	42	15	175	47
2	.00	6.9	67	51	70	39	69	33	36	15	34	18
3	.00	9.3	50	45	65	41	65	30	55	91	15	11
4	.00	66	43	40	60	42	66	110	70	81	11	8.8
5	.00	24	45	40	60	37	63	269	39	31	187	6.7
6	.00	31	57	43	60	37	58	95	35	19	74	5.2
7	.00	222	41	44	60	37	63	70	34	14	25	4.3
8	.00	83	34	90	60	39	56	67	41	12	14	3.5
9	.00	39	37	721	60	41	52	300	36	11	10	3.4
10	5.2	36	31	324	60	112	52	139	26	13	14	3.1
11	1.3	96	26	93	60	150	52	79	23	27	9.1	2.7
12	.26	37	25	76	55	109	51	67	20	12	11	2.6
13	.00	26	29	86	55	82	47	65	33	8.7	61	10
14	12	21	37	307	55	151	44	111	23	7.3	79	5.0
15	77	19	85	141	50	203	42	412	19	8.2	20	4.0
16	13	18	45	86	50	93	41	664	17	8.7	13	3.2
17	25	41	37	132	50	86	41	402	18	9.5	9.7	3.6
18	12	49	406	443	48	68	42	132	37	6.9	7.0	3.1
19	4.7	25	885	148	46	63	68	101	18	5.4	5.5	2.1
20	2.8	19	280	167	46	58	87	86	17	4.4	4.7	1.5
21	2.0	19	219	157	44	57	53	75	22	3.6	3.4	1.5
22	1.7	38	126	99	44	57	46	65	38	3.2	3.1	1.6
23	1.5	102	87	84	42	52	42	62	18	2.7	2.7	3.0
24	1.4	58	75	80	40	49	41	72	13	1.9	2.8	3.1
25	1.3	55	79	353	44	48	39	65	12	3.8	2.2	2.0
26	55	159	64	1780	45	310	59	54	11	5.1	1.9	1.3
27	179	56	54	548	42	732	57	51	15	4.1	2.4	.82
28	36	43	51	191	40	215	46	52	49	4.2	4.0	.81
29	16	42	48	123	---	113	40	50	15	3.6	3.5	.64
30	11	55	50	100	---	92	37	47	45	3.3	2.4	.44
31	8.3	---	69	88	---	83	---	44	---	19	200	---
TOTAL	466.46	1502.4	3357	6737	1490	3337	1597	3904	877	454.6	1007.4	164.01
MEAN	15.0	50.1	108	217	53.2	108	53.2	126	29.2	14.7	32.5	5.47
MAX	179	222	885	1780	79	732	87	664	70	91	200	47
MIN	.00	6.9	25	40	40	37	37	30	11	1.9	1.9	.44
CFSM	.38	1.27	2.73	5.49	1.35	2.73	1.35	3.19	.74	.37	.82	.14
IN.	.44	1.41	3.16	6.34	1.40	3.14	1.50	3.68	.83	.43	.95	.15

CAL YR 1977 TOTAL 9281.80 MEAN 25.4 MAX 885 MIN .00 CFSM .64 IN 8.74
WTR YR 1978 TOTAL 24893.87 MEAN 68.2 MAX 1780 MIN .00 CFSM 1.73 IN 23.44

01655480 POTOMAC RIVER AT INDIAN HEAD, MD
(National stream-quality accounting network station)

LOCATION.--Lat 38°36'03", long 77°10'56", Charles County, Hydrologic Unit 02070010, in brick building at end of wooden dock on left bank at U.S. Naval Ordnance Station at Indian Head, and 3.5 mi (5.6 km) above mouth of Mattawoman Creek.

DRAINAGE AREA.--12,160 mi² (31,490 km²).

PERIOD OF RECORD.--October 1977 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1977 to current year.
pH UNITS: October 1977 to current year.
WATER TEMPERATURES: October 1977 to current year.
DISSOLVED OXYGEN: October 1977 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1977.

REMARKS.--Interruptions in record were due to malfunctions of the recording instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 3,490 micromhos Nov. 4, 1977; minimum, 116 micromhos May 19, 20, 1978.
WATER TEMPERATURES: Maximum, 30.5°C Aug. 10, 1978; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum, 15.5 mg/L June 14, 1978; minimum, 3.4 mg/L July 4, 1978.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 3,490 micromhos November 4; minimum, 116 micromhos May 19, 20.
WATER TEMPERATURES: Maximum, 30.5°C Aug. 10; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum, 15.5 mg/L June 14; minimum, 3.4 mg/L July 4.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	2720	1610	2160	2670	1630	2040	350	320	337	210	190	202
2	1970	1410	1620	2940	1630	2230	330	300	316	210	190	204
3	1440	1120	1230	2980	1810	2280	310	290	300	220	200	208
4	1340	1120	1240	3490	1990	2550	300	260	280	224	210	217
5	1770	1260	1590	3310	1880	2490	280	260	266	226	211	221
6	1760	1580	1660	3340	2220	2810	270	250	259	228	215	223
7	1690	1250	1520	3180	2400	2900	---	---	---	228	211	221
8	3310	1610	2290	2970	1380	2270	---	---	---	226	207	219
9	3390	1360	2210	1850	777	1170	---	---	---	230	213	222
10	1780	1100	1420	772	604	664	---	---	---	---	---	---
11	2280	1280	1640	579	348	533	---	---	---	---	---	---
12	1920	1070	1480	---	---	---	---	---	---	---	---	---
13	1520	922	1250	---	---	---	---	---	---	---	---	---
14	1910	1060	1500	599	344	352	---	---	---	---	---	---
15	1870	1000	1470	329	297	307	---	---	---	---	---	---
16	2010	1000	1320	523	251	274	---	---	---	---	---	---
17	1240	920	1040	348	253	283	---	---	---	---	---	---
18	1220	1100	1170	369	265	304	---	---	---	---	---	---
19	1310	1220	1250	305	267	283	---	---	---	286	236	265
20	1360	1240	1280	326	279	306	260	250	257	264	176	232
21	1300	1210	1260	328	309	321	260	210	235	268	217	249
22	1650	1230	1330	330	321	329	220	200	210	280	247	267
23	1560	1220	1330	342	314	330	220	210	211	291	261	277
24	1950	1350	1600	344	316	334	220	200	209	299	276	286
25	2230	992	1650	346	308	329	210	200	202	306	280	293
26	2360	1240	1680	330	292	312	210	200	208	297	247	278
27	2320	1200	1800	332	303	315	220	210	210	257	190	222
28	1690	977	1330	372	324	339	210	200	205	---	---	---
29	1610	940	1140	355	336	346	210	190	200	---	---	---
30	2460	1150	1730	350	320	339	200	200	200	---	---	---
31	2620	1590	2150	---	---	---	210	200	203	---	---	---
MONTH	3390	920	1530	3490	251	976	350	190	239	306	176	239

01655480 POTOMAC RIVER AT INDIAN HEAD, MD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	162	158	160	316	310	314	170	162	166	306	284	296
2	---	---	---	320	314	316	176	164	171	310	298	305
3	---	---	---	324	314	319	182	174	177	314	304	308
4	---	---	---	337	320	328	190	178	182	314	298	307
5	---	---	---	333	301	321	196	184	190	310	300	304
6	---	---	---	337	310	327	204	194	198	316	288	301
7	---	---	---	356	327	342	---	---	---	314	298	308
8	---	---	---	358	350	353	220	208	213	326	304	311
9	---	---	---	366	352	355	224	216	219	368	302	357
10	---	---	---	364	350	354	228	220	223	358	300	327
11	---	---	---	358	345	352	236	224	228	302	274	292
12	---	---	---	364	348	355	240	222	233	286	278	283
13	---	---	---	373	356	363	240	232	237	282	272	277
14	248	194	220	375	362	369	250	236	245	272	264	269
15	243	188	219	388	338	376	248	244	246	268	252	259
16	253	196	229	334	266	301	248	244	246	252	194	218
17	266	222	244	278	176	215	246	242	245	200	138	158
18	272	238	257	174	166	169	248	240	244	138	120	126
19	278	257	267	180	164	167	250	240	244	120	116	119
20	282	268	274	182	170	173	258	244	249	120	116	118
21	285	270	276	188	174	178	---	---	---	126	120	123
22	310	280	292	198	182	191	---	---	---	152	126	136
23	310	303	307	200	194	198	---	---	---	154	142	147
24	---	---	---	200	194	197	---	---	---	156	142	148
25	---	---	---	198	194	196	272	268	270	172	156	165
26	---	---	---	206	192	196	272	254	266	178	162	171
27	---	---	---	208	192	196	268	254	260	190	176	183
28	320	310	313	196	188	192	272	256	264	196	184	191
29	---	---	---	190	170	182	284	262	273	204	190	198
30	---	---	---	174	168	171	292	274	284	208	196	202
31	---	---	---	170	164	167	---	---	---	212	194	204
MONTH	320	158	255	388	164	266	292	162	231	368	116	229

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	226	202	214	259	247	252	292	---	---	265	257	261
2	228	216	221	258	244	251	300	284	292	267	256	262
3	---	---	---	262	244	250	316	286	307	267	257	263
4	---	---	---	269	255	263	318	296	310	273	264	267
5	244	220	233	279	269	275	318	304	312	275	262	270
6	242	220	233	294	279	289	314	306	310	277	264	270
7	242	224	235	298	280	291	---	---	---	277	267	272
8	246	224	238	291	275	283	310	302	306	280	267	275
9	252	238	248	285	279	282	320	298	309	278	262	271
10	258	248	253	296	285	293	318	298	306	273	261	268
11	254	246	250	312	296	303	308	296	302	275	259	269
12	252	242	248	308	300	305	302	284	292	278	264	272
13	262	244	250	310	296	304	292	260	281	283	270	276
14	270	256	261	306	290	297	276	254	268	275	267	271
15	264	260	261	302	272	288	276	244	255	278	267	273
16	266	248	258	286	268	277	256	234	245	282	267	275
17	264	248	256	282	264	274	244	228	236	286	269	279
18	256	230	246	280	262	271	242	228	237	288	273	281
19	258	230	243	276	258	265	244	234	236	286	273	281
20	268	240	255	268	258	263	242	234	236	286	272	280
21	268	250	260	274	260	266	248	238	241	293	273	281
22	274	250	263	270	264	267	242	232	237	294	275	289
23	282	262	272	276	266	272	249	242	246	310	290	299
24	290	266	277	284	272	276	251	243	247	291	280	285
25	294	272	283	282	276	278	254	244	250	298	280	292
26	296	272	285	282	274	277	253	244	250	302	291	297
27	---	---	---	282	276	278	254	248	250	296	286	291
28	278	268	275	286	274	280	257	249	253	304	288	296
29	278	258	268	288	276	283	261	253	256	308	294	302
30	259	253	256	286	272	280	259	253	257	306	288	297
31	---	---	---	282	274	280	262	251	256	---	---	---
MONTH	296	202	253	312	244	278	320	228	268	310	256	279

01655480 POTOMAC RIVER AT INDIAN HEAD, MD--Continued

PH (UNITS), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.7	7.6	7.7	8.0	7.7	7.8	4.1	4.0	4.1	7.6	7.6	7.6
2	8.3	7.6	7.8	8.0	7.7	7.8	---	---	---	7.7	7.6	7.6
3	8.1	7.8	7.9	7.9	7.6	7.8	---	---	---	7.7	7.6	7.6
4	8.3	7.8	8.2	8.3	7.6	7.8	---	---	---	7.7	7.6	7.6
5	8.5	7.8	8.1	8.0	7.5	7.7	---	---	---	7.6	7.6	7.6
6	8.3	7.8	8.0	7.7	7.5	7.6	---	---	---	7.6	7.5	7.5
7	8.7	7.8	8.1	7.7	7.6	7.6	---	---	---	7.5	7.5	7.5
8	8.2	7.7	7.9	7.6	7.3	7.5	---	---	---	7.5	7.5	7.5
9	8.4	7.7	7.9	7.4	7.2	7.3	---	---	---	7.6	7.5	7.5
10	8.5	7.9	8.1	7.5	7.2	7.3	---	---	---	---	---	---
11	8.4	7.9	8.1	7.8	7.5	7.6	---	---	---	---	---	---
12	8.4	7.8	8.1	---	---	---	---	---	---	---	---	---
13	8.2	7.9	8.0	---	---	---	---	---	---	---	---	---
14	8.1	7.9	7.9	7.9	7.7	7.8	---	---	---	---	---	---
15	8.4	7.9	8.1	7.8	7.7	7.7	---	---	---	---	---	---
16	8.1	7.9	8.0	7.7	7.6	7.7	---	---	---	---	---	---
17	8.2	7.9	8.1	7.8	7.6	7.7	---	---	---	---	---	---
18	8.6	8.0	8.3	7.9	7.7	7.8	---	---	---	---	---	---
19	8.7	8.1	8.4	7.8	7.7	7.7	---	---	---	7.6	7.6	7.6
20	8.6	8.1	8.4	7.8	7.7	7.7	7.5	7.4	7.5	7.6	7.1	7.5
21	8.7	8.1	8.4	7.7	7.6	7.7	7.5	7.3	7.4	7.5	7.4	7.5
22	8.6	8.1	8.3	7.7	7.6	7.6	7.4	7.3	7.3	7.5	7.4	7.5
23	8.5	8.1	8.3	7.7	7.6	7.7	7.4	7.3	7.4	7.5	7.5	7.5
24	8.6	8.1	8.3	7.7	7.6	7.6	7.5	7.4	7.4	7.5	7.5	7.5
25	8.5	7.9	8.2	7.6	7.6	7.6	7.5	7.4	7.4	7.5	7.4	7.5
26	8.2	8.0	8.1	7.8	7.5	7.6	7.6	7.5	7.6	7.7	7.3	7.5
27	8.1	7.9	8.0	7.9	7.6	7.8	7.6	7.5	7.6	7.7	7.6	7.7
28	8.2	7.9	8.0	7.7	7.6	7.7	7.6	7.6	7.6	---	---	---
29	8.2	7.9	8.0	7.7	7.6	7.7	7.6	7.6	7.6	---	---	---
30	8.0	7.8	7.9	4.1	4.0	4.1	7.6	7.6	7.6	---	---	---
31	8.0	7.7	7.8	---	---	---	7.6	7.6	7.6	---	---	---
MONTH	8.7	7.6	8.1	8.3	4.0	7.5	7.6	4.0	7.2	7.7	7.1	7.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.8	7.7	7.8	7.9	7.8	7.9	7.7	7.6	7.6	---	---	---
2	---	---	---	8.0	7.9	7.9	7.7	7.6	7.7	---	---	---
3	---	---	---	7.9	7.9	7.9	7.7	7.6	7.7	---	---	---
4	---	---	---	8.0	7.9	7.9	7.7	7.6	7.6	---	---	---
5	---	---	---	8.0	8.0	8.0	7.7	7.6	7.7	---	---	---
6	---	---	---	8.0	7.9	8.0	7.7	7.6	7.7	---	---	---
7	---	---	---	8.0	7.9	7.9	---	---	---	---	---	---
8	---	---	---	8.0	7.9	7.9	7.7	7.6	7.6	---	---	---
9	---	---	---	7.9	7.9	7.9	7.8	7.7	7.7	---	---	---
10	---	---	---	8.1	7.9	7.9	7.7	7.6	7.7	7.7	7.6	7.6
11	---	---	---	7.9	7.9	7.9	7.7	7.6	7.6	7.6	7.5	7.5
12	---	---	---	7.9	7.8	7.9	7.9	7.7	7.8	7.5	7.5	7.5
13	---	---	---	7.8	7.8	7.8	8.0	7.7	7.8	7.6	7.5	7.5
14	7.7	7.6	7.6	7.8	7.8	7.8	8.1	7.8	8.0	7.6	7.5	7.6
15	7.7	7.5	7.6	8.0	7.8	7.9	8.7	8.0	8.3	7.6	7.4	7.5
16	7.7	7.5	7.6	7.8	7.8	7.8	9.0	8.1	8.5	7.5	7.4	7.4
17	7.7	7.6	7.6	7.8	7.8	7.8	9.1	8.3	8.7	7.4	7.3	7.4
18	7.7	7.6	7.6	7.8	7.7	7.8	---	---	---	7.3	7.3	7.3
19	7.7	7.6	7.7	7.8	7.7	7.8	---	---	---	7.4	7.3	7.3
20	7.7	7.7	7.7	7.8	7.7	7.7	---	---	---	7.3	7.3	7.3
21	7.7	7.7	7.7	7.7	7.7	7.7	---	---	---	7.3	7.3	7.3
22	7.9	7.7	7.8	7.8	7.7	7.7	---	---	---	7.4	7.3	7.3
23	7.9	7.8	7.9	7.7	7.7	7.7	---	---	---	7.4	7.3	7.3
24	---	---	---	7.7	7.7	7.7	---	---	---	7.4	7.3	7.3
25	---	---	---	7.8	7.7	7.7	---	---	---	7.4	7.3	7.4
26	---	---	---	7.8	7.5	7.8	---	---	---	7.4	7.3	7.4
27	---	---	---	7.7	7.7	7.7	---	---	---	7.5	7.4	7.4
28	7.9	7.8	7.9	7.7	7.6	7.6	---	---	---	7.5	7.4	7.4
29	---	---	---	7.7	7.6	7.7	---	---	---	7.5	7.4	7.4
30	---	---	---	7.7	7.6	7.7	---	---	---	7.4	7.4	7.4
31	---	---	---	7.7	7.6	7.7	---	---	---	7.4	7.3	7.3
MONTH	7.9	7.5	7.7	8.1	7.5	7.8	9.1	7.6	7.9	7.7	7.3	7.4

01655480 POTOMAC RIVER AT INDIAN HEAD, MD--Continued

PH (UNITS), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.6	7.3	7.4	9.1	8.1	8.4	8.5	5.0	6.9	8.9	7.9	8.3
2	7.4	7.3	7.3	8.5	7.9	8.2	8.0	7.4	7.7	8.9	7.7	8.3
3	---	---	---	8.1	7.7	7.9	8.4	7.4	7.8	8.8	7.7	8.2
4	---	---	---	8.2	7.6	7.8	8.2	7.4	7.6	8.9	7.8	8.3
5	8.6	7.5	7.9	8.0	7.4	7.6	7.9	7.3	7.5	8.9	7.9	8.3
6	8.7	7.6	7.9	7.8	7.5	7.5	7.4	7.3	7.3	8.8	7.8	8.4
7	8.6	7.6	8.0	7.9	7.4	7.6	---	---	---	8.9	7.8	8.4
8	8.8	7.7	8.1	8.4	7.5	7.8	8.1	7.6	8.0	8.8	7.8	8.3
9	8.8	7.6	8.2	8.6	7.7	8.0	8.3	7.6	7.8	8.8	7.8	8.3
10	8.9	7.7	8.3	8.8	7.9	8.4	8.8	7.6	7.9	8.9	7.8	8.4
11	8.9	7.8	8.3	8.8	8.0	8.3	8.1	7.6	7.7	9.0	7.8	8.4
12	9.1	7.9	8.4	8.6	7.9	8.2	8.3	7.6	7.8	9.1	7.9	8.5
13	8.9	8.0	8.5	8.6	7.8	8.0	8.1	7.5	7.7	8.8	8.2	8.4
14	9.2	8.0	8.6	8.4	7.7	8.0	7.6	7.5	7.5	8.7	8.1	8.4
15	8.9	8.4	8.6	8.7	7.7	8.0	8.6	7.4	7.6	8.9	8.0	8.3
16	9.3	8.4	8.7	8.3	7.7	8.0	8.1	7.4	7.7	9.0	8.2	8.5
17	8.9	8.3	8.6	8.6	7.7	8.1	7.9	7.4	7.5	8.9	8.3	8.5
18	8.9	8.2	8.5	8.7	7.7	8.2	8.4	7.4	7.8	8.9	8.1	8.5
19	8.9	8.1	8.4	8.5	7.8	8.1	8.1	7.4	7.6	9.0	8.1	8.6
20	8.9	8.0	8.4	8.8	7.7	8.2	8.0	7.5	7.7	9.0	8.4	8.7
21	8.5	7.9	8.1	8.3	7.8	8.0	8.4	7.5	7.9	9.0	8.4	8.7
22	8.1	7.6	7.9	8.7	7.8	8.3	7.6	7.5	7.5	8.9	8.3	8.6
23	8.0	7.5	7.7	8.6	7.7	8.2	8.7	7.5	7.9	8.6	8.1	8.4
24	7.7	7.4	7.6	8.7	7.9	8.2	8.7	7.5	8.0	8.9	8.3	8.7
25	7.9	7.4	7.6	8.5	7.7	8.0	8.9	7.6	8.1	9.1	8.2	8.7
26	8.0	7.4	7.6	8.5	7.6	7.9	9.1	7.7	8.1	9.1	8.5	8.8
27	---	---	---	8.3	7.6	7.9	8.6	7.8	8.0	9.1	8.5	8.9
28	8.6	8.2	8.3	8.7	7.6	8.1	8.7	7.7	8.1	9.1	8.6	8.8
29	9.0	7.7	8.2	8.7	7.7	8.1	9.1	7.8	8.3	9.1	8.6	8.9
30	9.1	7.8	8.5	8.6	7.7	8.1	9.1	8.0	8.5	9.1	8.7	8.9
31	---	---	---	8.8	7.6	8.0	8.9	8.0	8.4	---	---	---
MONTH	9.3	7.3	8.1	9.1	7.4	8.0	9.1	5.0	7.8	9.1	7.7	8.5

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	22.0	21.5	21.5	14.0	13.0	13.5	7.0	6.0	6.5	2.5	2.0	2.0
2	22.5	21.0	21.5	14.5	13.5	14.0	6.5	6.0	6.0	2.0	1.5	2.0
3	20.5	18.5	20.0	14.5	14.0	14.5	6.5	5.5	6.0	1.5	1.0	1.0
4	19.5	18.0	18.5	16.0	14.5	15.0	6.5	5.5	6.0	1.0	.5	1.0
5	19.0	17.5	18.0	16.0	15.0	15.5	6.0	5.5	6.0	1.5	.5	1.0
6	18.5	17.5	18.0	15.5	15.0	15.5	6.0	5.5	5.5	2.0	1.0	1.5
7	19.0	17.5	18.0	15.5	15.5	15.5	---	---	---	2.0	1.5	1.5
8	18.0	17.5	17.5	16.0	15.5	15.5	---	---	---	2.5	1.5	2.0
9	19.0	17.0	18.0	16.5	15.5	16.5	---	---	---	3.0	2.0	2.0
10	17.5	16.5	17.0	17.5	15.5	16.5	---	---	---	---	---	---
11	18.0	16.5	17.0	15.5	14.5	15.0	---	---	---	---	---	---
12	17.5	16.5	17.0	---	---	---	---	---	---	---	---	---
13	16.5	15.0	15.5	---	---	---	---	---	---	---	---	---
14	15.0	13.5	14.5	10.5	10.0	10.5	---	---	---	---	---	---
15	15.0	13.5	14.0	10.5	9.5	10.0	---	---	---	---	---	---
16	14.5	12.5	13.5	10.5	9.5	10.5	---	---	---	---	---	---
17	13.0	11.5	12.5	11.5	10.0	10.5	---	---	---	---	---	---
18	13.0	11.0	12.0	10.5	9.0	10.0	---	---	---	---	---	---
19	12.5	11.5	12.0	10.0	9.0	9.5	---	---	---	.0	.0	.0
20	13.0	11.5	12.0	10.0	9.0	9.5	4.0	3.5	4.0	.0	.0	.0
21	13.0	11.5	12.5	10.0	9.0	9.5	4.5	3.5	4.0	.5	.0	.0
22	13.5	12.0	12.5	10.0	9.0	9.5	4.5	3.5	4.0	.5	.0	.0
23	13.0	12.5	12.5	9.0	8.5	9.0	4.0	3.5	3.5	.5	.0	.0
24	14.0	12.5	13.0	9.5	9.0	9.0	4.5	3.5	4.0	.5	.0	.5
25	14.0	12.5	13.0	9.0	8.5	8.5	5.0	4.0	4.5	.5	.0	.5
26	13.5	13.0	13.5	8.5	7.0	8.0	4.0	2.5	3.0	1.5	.5	1.0
27	14.0	13.5	14.0	7.0	4.5	6.0	3.0	2.0	2.5	1.0	.0	.5
28	15.0	14.0	14.0	6.5	6.0	6.5	2.5	1.5	2.0	---	---	---
29	15.0	13.5	14.0	6.0	6.0	6.0	2.5	1.5	2.0	---	---	---
30	14.5	13.5	14.0	6.0	5.5	6.0	2.0	1.5	2.0	---	---	---
31	14.0	13.0	13.5	---	---	---	2.5	2.0	2.0	---	---	---
MONTH	22.5	11.0	15.5	17.5	4.5	11.5	7.0	1.5	4.0	3.0	.0	1.0

01655480 POTOMAC RIVER AT INDIAN HEAD, MD--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	.5	.0	.0	2.5	1.5	2.0	10.5	8.5	9.5	15.0	13.5	14.5
2	---	---	---	2.0	1.0	1.5	12.0	10.0	11.0	15.5	13.5	14.5
3	---	---	---	2.0	1.5	1.5	11.0	10.5	11.0	16.0	14.0	15.0
4	---	---	---	2.0	1.0	1.5	12.5	10.5	11.0	15.0	14.0	14.5
5	---	---	---	2.5	.5	1.5	13.0	11.0	12.0	14.0	13.5	14.0
6	---	---	---	2.5	1.5	2.0	12.5	11.5	12.0	15.0	13.5	14.0
7	---	---	---	3.0	1.5	2.0	---	---	---	15.5	14.5	14.5
8	---	---	---	2.0	1.5	2.0	14.0	12.5	13.0	14.5	14.5	14.5
9	---	---	---	2.0	1.5	2.0	14.5	11.5	13.0	16.0	14.5	16.0
10	---	---	---	2.5	2.0	2.0	14.0	12.5	13.5	16.5	15.0	16.0
11	---	---	---	3.5	1.5	2.5	14.5	13.0	13.5	17.5	15.5	16.5
12	---	---	---	4.0	2.5	3.5	15.0	13.5	14.5	17.5	16.0	16.5
13	---	---	---	4.5	3.0	4.0	15.5	14.0	14.5	17.5	17.0	17.0
14	.5	.0	.5	4.5	4.0	4.0	15.5	14.0	14.5	18.0	17.0	17.5
15	.5	.0	.5	7.5	4.5	6.0	16.0	13.5	14.5	19.0	17.0	18.0
16	1.0	.0	.5	7.0	5.5	6.0	16.5	13.5	14.5	17.5	16.0	16.5
17	1.0	.5	.5	5.5	3.5	4.5	15.5	14.0	14.5	16.0	14.5	15.0
18	1.0	.5	.5	5.0	3.5	4.0	14.5	14.0	14.0	15.5	14.0	14.5
19	.5	.0	.5	5.5	4.0	5.0	14.0	13.5	14.0	17.0	14.0	15.0
20	1.0	.0	.5	7.0	5.0	6.0	14.5	13.5	14.0	16.5	14.5	15.0
21	1.5	.5	.5	8.0	5.5	6.5	---	---	---	18.0	15.5	16.5
22	1.5	.0	1.0	9.5	7.0	8.0	---	---	---	19.0	16.0	17.5
23	1.0	.5	.5	10.0	7.5	8.5	---	---	---	19.0	17.0	18.0
24	---	---	---	10.0	8.5	9.5	---	---	---	19.5	18.0	18.5
25	---	---	---	9.5	8.5	9.0	14.5	14.0	14.5	21.0	18.5	19.5
26	---	---	---	8.5	8.0	8.5	14.0	12.5	13.0	21.5	19.5	20.5
27	---	---	---	9.5	8.5	8.5	13.0	12.0	12.5	21.0	20.5	20.5
28	2.5	2.0	2.0	9.5	7.5	8.5	14.0	12.0	13.0	22.0	20.5	21.0
29	---	---	---	8.0	7.5	7.5	14.5	13.0	13.5	23.0	21.0	21.5
30	---	---	---	9.0	7.0	8.0	15.0	13.5	14.5	22.0	21.5	21.5
31	---	---	---	9.0	8.0	8.5	---	---	---	23.0	22.0	22.5
MONTH	2.5	.0	.5	10.0	.5	5.0	16.5	8.5	13.0	23.0	13.5	17.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	26.0	22.5	23.5	29.0	27.0	27.5	28.5	27.5	28.0	28.0	27.5	28.0
2	25.0	23.0	23.5	27.5	26.5	27.0	28.5	27.5	27.5	28.5	26.5	27.5
3	---	---	---	26.5	25.5	26.0	28.5	27.5	28.0	28.5	26.5	27.5
4	---	---	---	26.0	24.5	25.5	28.0	27.0	27.5	28.0	26.5	27.5
5	25.0	23.5	24.0	26.0	24.0	25.0	28.0	27.0	27.5	28.0	26.0	27.0
6	25.5	23.0	24.0	26.0	24.0	25.0	27.5	27.0	27.0	28.0	26.5	27.0
7	24.5	23.5	24.0	25.5	24.0	25.0	---	---	---	28.5	26.0	27.5
8	24.5	23.5	24.0	26.0	24.0	25.0	29.0	27.0	28.0	28.5	26.5	27.5
9	26.0	23.5	24.5	26.5	24.5	25.0	30.0	27.5	28.5	28.0	27.0	27.0
10	25.0	23.5	24.5	27.5	25.0	26.0	30.5	27.5	28.5	27.0	26.0	26.5
11	25.0	23.5	24.0	27.0	25.0	26.0	28.5	27.5	28.0	26.5	26.0	26.0
12	25.5	23.5	24.0	26.5	25.0	25.5	29.0	28.0	28.0	27.5	26.0	26.5
13	25.0	23.5	24.5	26.5	25.0	25.5	28.5	27.5	28.0	26.0	24.5	25.0
14	24.5	23.0	23.5	26.0	25.0	25.5	28.0	27.5	27.5	25.0	24.0	24.5
15	23.0	22.5	22.5	28.0	25.0	26.0	30.5	27.5	28.0	25.0	24.0	24.5
16	25.0	22.5	23.0	26.0	25.5	25.5	29.0	27.5	28.0	25.5	24.0	24.5
17	23.5	23.0	23.0	27.0	25.0	26.0	29.0	27.5	28.0	25.5	24.0	24.5
18	25.5	23.0	24.0	28.0	26.0	26.5	29.5	28.0	29.0	26.0	24.5	25.0
19	26.5	24.0	24.5	27.5	26.0	26.5	29.0	28.0	28.5	26.0	24.5	25.5
20	27.0	24.0	25.5	28.5	26.0	27.0	28.5	26.5	27.5	25.5	24.5	25.0
21	26.5	25.0	25.5	27.5	26.5	27.0	28.5	27.5	28.0	25.5	24.5	25.0
22	26.5	24.5	25.5	29.5	27.5	28.5	27.0	26.5	27.0	25.5	24.5	25.0
23	27.5	25.0	26.0	30.0	28.0	29.0	29.5	26.5	27.5	24.5	23.0	24.0
24	27.0	25.0	26.0	30.0	28.0	29.0	29.0	27.0	27.5	23.5	23.0	23.5
25	27.5	25.5	26.5	29.5	28.5	29.0	29.5	27.5	28.0	24.5	23.0	23.5
26	26.5	25.5	26.0	29.5	28.0	28.5	30.0	28.0	28.5	23.5	22.0	23.0
27	---	---	---	29.0	28.0	28.5	28.0	27.5	28.0	23.0	22.0	22.5
28	28.5	27.0	27.5	30.0	28.0	28.5	28.5	27.5	28.0	23.0	21.5	22.5
29	30.0	26.5	27.5	29.0	27.5	28.0	30.0	27.5	28.5	22.5	21.0	21.5
30	29.5	27.0	28.0	28.5	27.5	28.0	30.0	28.0	28.5	22.0	21.0	21.5
31	---	---	---	29.5	27.0	28.0	29.0	28.0	28.5	---	---	---
MONTH	30.0	22.5	25.0	30.0	24.0	26.5	30.5	26.5	28.0	28.5	21.0	25.0

01655480 POTOMAC RIVER AT INDIAN HEAD, MD--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.9	6.0	7.0	10.4	8.9	9.6	10.9	10.7	10.8	13.0	12.8	12.9
2	8.0	5.7	6.6	10.2	9.2	9.5	10.9	10.6	10.7	13.3	11.5	13.0
3	9.5	6.4	8.2	10.1	8.8	9.4	11.5	10.7	11.0	13.3	13.1	13.2
4	10.2	8.2	9.9	11.6	8.5	9.4	12.0	11.2	11.6	13.2	13.0	13.1
5	11.3	8.5	9.6	10.4	8.0	8.8	12.2	11.4	11.8	13.1	12.9	13.0
6	10.4	8.5	9.3	9.0	8.0	8.5	12.2	11.6	12.0	13.0	12.9	12.9
7	12.6	8.4	9.8	8.9	8.2	8.6	---	---	---	12.9	12.6	12.7
8	10.4	7.9	8.9	8.4	6.1	7.7	---	---	---	12.8	12.5	12.7
9	11.1	8.0	9.1	6.8	4.0	5.3	---	---	---	13.0	12.8	12.9
10	11.8	8.9	10.0	8.2	4.0	5.8	---	---	---	---	---	---
11	11.3	9.1	9.9	10.4	8.2	8.8	---	---	---	---	---	---
12	11.6	9.1	10.1	---	---	---	---	---	---	---	---	---
13	10.7	9.6	10.1	---	---	---	---	---	---	---	---	---
14	10.2	9.6	9.9	10.6	10.1	10.4	---	---	---	---	---	---
15	11.7	9.7	10.5	10.2	9.9	10.0	---	---	---	---	---	---
16	10.5	9.8	10.2	10.4	9.8	10.2	---	---	---	---	---	---
17	11.2	10.2	10.8	10.6	10.0	10.2	---	---	---	---	---	---
18	12.7	10.5	11.3	11.2	10.2	10.7	---	---	---	---	---	---
19	12.6	10.5	11.6	10.9	10.5	10.7	---	---	---	13.5	11.7	12.9
20	12.5	10.8	11.6	10.9	10.5	10.6	13.4	13.1	13.2	13.3	12.7	13.1
21	13.3	10.7	11.7	10.7	10.3	10.5	13.5	12.6	13.1	13.4	13.1	13.2
22	12.7	10.7	11.5	10.7	10.2	10.5	14.0	13.2	13.6	13.5	13.2	13.4
23	12.2	10.8	11.3	10.8	10.3	10.6	14.0	13.0	13.8	13.6	13.2	13.4
24	13.1	10.5	11.3	10.7	10.1	10.3	13.9	13.7	13.8	13.7	13.3	13.5
25	12.4	10.8	11.3	10.3	10.0	10.1	13.8	13.4	13.6	13.7	13.5	13.6
26	11.2	10.3	10.7	10.9	9.9	10.4	13.6	12.7	13.3	14.7	13.7	14.0
27	10.8	9.9	10.3	11.7	8.4	10.5	12.8	12.5	12.6	14.8	14.6	14.7
28	11.0	9.6	10.2	11.3	10.6	11.0	13.0	12.6	12.8	---	---	---
29	11.0	9.5	10.1	11.0	10.7	10.9	13.1	12.7	12.8	---	---	---
30	10.5	9.5	9.8	10.9	10.8	10.8	12.9	11.9	12.5	---	---	---
31	10.2	9.0	9.6	---	---	---	13.0	12.8	12.8	---	---	---
MONTH	13.3	5.7	10.1	11.7	4.0	9.6	14.0	10.6	12.5	14.8	11.5	13.2

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	14.7	14.5	14.6	13.5	13.2	13.3	13.1	12.3	12.8	10.7	8.8	10.0
2	---	---	---	13.7	13.3	13.5	12.5	11.8	12.2	11.5	9.8	10.5
3	---	---	---	13.6	13.1	13.2	12.0	8.1	11.6	11.3	9.9	10.4
4	---	---	---	13.8	13.2	13.5	11.7	11.1	11.4	10.3	9.7	9.9
5	---	---	---	14.0	13.4	13.7	11.2	11.1	11.1	10.0	9.2	9.6
6	---	---	---	13.9	13.3	13.5	11.1	10.9	11.0	9.6	8.7	9.2
7	---	---	---	13.6	13.3	13.5	---	---	---	8.7	7.1	8.5
8	---	---	---	13.4	13.1	13.3	10.9	9.9	10.7	8.0	7.4	7.8
9	---	---	---	13.4	13.0	13.2	10.9	5.9	9.0	8.7	7.2	8.6
10	---	---	---	13.3	13.0	13.2	10.4	9.7	10.2	9.0	8.0	8.6
11	---	---	---	13.6	13.1	13.2	10.3	9.8	10.0	8.3	7.2	7.7
12	---	---	---	13.4	13.0	13.2	11.0	9.4	10.3	7.6	6.9	7.3
13	---	---	---	13.1	11.2	12.8	10.8	7.4	9.4	7.9	7.2	7.5
14	11.1	9.7	10.6	12.3	11.9	12.0	10.6	7.1	8.5	8.2	7.0	7.6
15	13.9	11.1	13.1	13.2	12.3	13.0	12.2	7.7	9.9	7.7	6.6	7.3
16	13.9	11.6	12.8	13.7	12.4	13.0	14.2	10.2	11.7	9.6	6.9	8.5
17	11.6	11.4	11.5	14.5	13.2	14.0	14.3	11.1	12.5	10.4	9.1	9.9
18	11.4	11.2	11.3	14.6	14.4	14.5	14.3	11.7	12.7	10.8	10.2	10.5
19	14.3	11.1	12.9	14.7	13.4	14.4	13.6	11.4	12.2	10.8	10.4	10.6
20	14.2	13.6	13.9	14.4	13.9	14.2	13.5	8.9	11.0	10.6	10.1	10.4
21	14.1	13.7	13.8	14.1	13.7	14.0	---	---	---	10.3	9.7	10.0
22	14.9	14.1	14.5	13.8	11.8	13.2	---	---	---	10.6	9.5	10.0
23	14.8	14.6	14.7	13.5	13.2	13.4	---	---	---	10.4	9.7	10.0
24	---	---	---	13.2	10.8	12.2	---	---	---	9.6	9.0	9.2
25	---	---	---	12.9	11.3	12.2	11.5	9.6	10.7	9.2	8.6	8.9
26	---	---	---	12.8	12.5	12.6	11.1	9.5	10.2	8.6	7.0	7.9
27	---	---	---	12.5	9.5	11.9	12.1	10.2	11.0	8.6	8.1	8.4
28	13.5	12.4	13.0	13.2	11.5	12.3	12.1	9.8	11.1	8.3	7.6	8.0
29	---	---	---	13.9	13.2	13.5	12.2	9.8	10.7	8.2	7.2	7.8
30	---	---	---	13.7	13.3	13.4	11.1	9.5	10.2	7.7	7.3	7.5
31	---	---	---	13.3	13.0	13.2	---	---	---	7.6	5.7	6.9
MONTH	14.9	9.7	13.1	14.7	9.5	13.2	14.3	5.9	10.9	11.5	5.7	8.9

01655480 POTOMAC RIVER AT INDIAN HEAD, MD--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	8.7	6.5	7.3	13.2	7.2	8.9	8.6	4.5	6.8	10.9	6.6	8.0
2	7.1	6.1	6.4	8.9	6.5	7.8	6.5	4.3	5.3	11.7	6.0	8.1
3	---	---	---	7.0	5.6	6.5	8.8	4.2	6.9	10.8	5.6	7.7
4	---	---	---	8.4	3.4	6.3	9.4	5.0	6.5	11.4	6.5	8.6
5	13.0	7.8	10.3	7.8	4.2	5.8	7.8	4.4	5.9	11.3	7.0	8.8
6	13.8	8.3	10.4	7.3	4.3	5.3	5.2	4.6	4.8	11.4	6.7	8.9
7	13.3	8.3	10.7	8.2	4.3	5.9	---	---	---	12.2	6.8	9.3
8	14.8	9.0	10.9	10.8	5.7	7.8	10.6	6.9	8.3	11.0	7.0	8.6
9	12.0	5.5	9.8	11.5	7.0	8.8	10.0	7.1	7.9	9.3	4.4	6.6
10	13.8	8.8	11.1	12.8	8.5	10.2	12.9	6.4	8.0	8.9	6.4	7.7
11	14.3	9.5	11.8	10.6	8.3	9.2	8.5	6.6	7.1	11.9	6.7	8.6
12	15.3	10.0	11.9	10.0	4.7	8.2	9.2	6.5	7.5	13.1	6.8	9.2
13	14.4	10.4	12.4	10.1	7.0	7.9	9.0	6.2	7.3	10.6	7.8	8.6
14	15.5	10.6	12.9	9.2	6.8	7.8	6.9	6.0	6.3	10.1	7.7	8.6
15	14.0	12.1	12.8	10.8	6.3	7.8	11.8	5.6	6.9	11.3	7.4	8.7
16	14.0	8.9	10.5	9.0	7.0	7.8	9.2	5.6	7.4	11.8	7.8	9.4
17	11.1	8.5	9.7	9.7	7.1	8.1	8.5	5.7	6.4	11.4	8.0	9.3
18	11.2	8.5	9.4	10.5	7.3	8.5	10.1	5.9	7.7	11.6	7.6	9.6
19	11.1	8.1	9.1	10.5	7.5	8.7	8.5	5.2	6.4	12.4	7.8	10.1
20	11.8	7.0	9.4	11.4	7.5	9.2	8.3	6.4	7.0	12.5	8.4	10.2
21	10.0	7.4	8.3	9.4	7.4	8.4	9.5	7.1	8.2	12.2	8.6	9.9
22	8.7	6.6	7.6	9.8	6.2	7.9	6.7	6.1	6.3	11.7	8.3	9.6
23	9.2	6.3	7.4	8.9	5.8	7.6	11.0	6.0	7.8	10.5	7.9	9.1
24	7.7	5.9	6.9	9.4	6.4	7.7	11.5	6.2	7.9	11.8	8.7	10.1
25	7.9	5.1	6.3	8.1	5.9	6.8	12.4	6.4	8.4	13.7	8.5	11.0
26	8.4	4.9	6.3	8.3	5.2	6.4	13.9	6.6	8.3	13.1	9.7	10.9
27	---	---	---	7.6	5.0	6.2	10.2	6.9	7.8	11.9	7.8	9.3
28	---	---	---	8.4	3.9	6.6	9.8	4.8	7.3	10.8	7.7	8.8
29	13.3	6.5	8.8	9.2	5.4	6.9	13.6	6.7	9.0	11.4	7.8	9.4
30	13.4	6.8	9.5	8.4	5.5	6.7	11.9	7.1	8.9	10.7	8.0	9.2
31	---	---	---	10.3	5.1	6.5	11.0	6.6	8.5	---	---	---
MONTH	15.5	4.9	9.5	13.2	3.4	7.6	13.9	4.2	7.3	13.7	4.4	9.1

01661050 ST. CLEMENT CREEK NEAR CLEMENTS, MD

LOCATION.--Lat 38°20'00", long 76°43'31", St. Marys County, Hydrologic Unit 02070011, on left bank 60 ft (18 m) downstream from bridge on State Highway 242, 0.5 mi (0.8 km) north of Clements, 2.3 mi (3.7 km) upstream from mouth, and 5.7 mi (9.2 km) northwest of Leonardtown.

DRAINAGE AREA.--18.5 mi^2 (47.9 km^2).

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Altitude of gage is 8 ft (2.4 m), from topographic map.

REMARKS.--Records good except those for period of no gage-height record, Aug. 17 to Sept. 7, which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--10 years, 21.3 ft^3/s (0.603 m^3/s), 15.64 in/yr (397 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,350 ft^3/s (123 m^3/s) June 22, 1972, gage height, 6.55 ft (1.996 m), from rating curve extended above 480 ft^3/s (13.6 m^3/s) on basis of contracted-opening and flow-over-road measurement of peak flow; no flow for part of Sept. 6, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 220 ft^3/s (6.2 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 19	0800	424	12.0	4.63	1.411	May 5	0230	264	7.48	3.86	1.177
Jan. 9	1430	330	9.35	4.25	1.295	May 16	1900	347	9.83	4.33	1.320
Jan. 14	0830	327	9.26	4.23	1.289	July 26	0300	223	6.32	3.56	1.085
Jan. 18	0600	356	10.1	4.37	1.332	Aug. 13	2300	1680	47.6	5.78	1.762
Jan. 26	1000	448	12.7	4.71	1.436	Sept. 1	Unknown	*1990	56.4	5.91	1.801
Mar. 26	2230	395	11.2	4.53	1.381						

No flow for part of Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	3.5	27	30	24	19	32	26	25	14	30	100
2	.03	3.6	17	22	24	18	29	23	17	12	102	20
3	.05	5.6	12	17	24	18	27	22	24	129	36	10
4	.08	20	10	13	27	19	27	74	45	59	20	7.0
5	.10	11	14	14	23	18	27	167	24	21	31	5.0
6	.05	22	24	17	27	16	25	68	19	15	20	4.4
7	.08	85	15	22	27	18	61	43	18	11	24	4.2
8	.14	26	11	42	28	19	37	39	44	9.6	15	4.1
9	1.9	10	11	220	27	21	28	110	50	8.5	13	4.0
10	3.5	7.9	10	70	24	45	27	91	21	15	19	3.9
11	1.5	9.0	6.5	20	23	76	26	40	16	25	26	3.7
12	1.0	7.5	6.9	22	24	84	26	32	15	15	14	3.7
13	.77	6.2	8.4	32	24	56	24	30	16	10	216	3.7
14	3.1	5.4	15	261	25	86	23	39	17	8.4	316	3.7
15	16	5.3	41	90	24	118	21	147	13	8.0	29	3.7
16	4.7	5.1	19	38	24	108	20	282	13	9.0	19	3.7
17	3.5	12	13	60	25	87	20	149	14	10	16	3.7
18	2.8	20	163	258	27	41	21	54	21	16	13	3.4
19	1.9	9.9	307	72	29	34	40	42	22	10	11	3.2
20	1.5	7.5	65	110	24	29	46	35	49	8.4	10	2.8
21	1.3	6.7	84	108	24	27	29	31	21	7.0	9.0	2.8
22	1.3	11	48	47	23	27	24	27	44	6.2	8.0	2.9
23	1.2	32	27	36	18	24	22	25	19	5.6	7.5	4.1
24	1.2	23	23	32	19	24	21	28	14	5.4	7.5	4.5
25	1.2	14	25	151	21	23	20	31	12	75	7.0	4.1
26	16	40	20	360	21	161	52	24	11	95	6.5	3.2
27	65	18	13	98	19	243	144	23	16	20	6.0	3.0
28	17	12	12	46	18	67	51	23	24	18	6.0	3.0
29	6.1	10	12	34	---	43	34	24	13	16	5.5	2.9
30	4.1	11	15	30	---	36	29	23	35	16	5.5	2.6
31	3.8	---	51	28	---	33	---	24	---	45	12	---
TOTAL	160.98	460.2	1125.8	2400	667	1638	1013	1796	692	723.1	1060.5	231.0
MEAN	5.19	15.3	36.3	77.4	23.8	52.8	33.8	57.9	23.1	23.3	34.2	7.70
MAX	65	85	307	360	29	243	144	282	50	129	316	100
MIN	.03	3.5	6.5	13	18	16	20	22	11	5.4	5.5	2.6
CFSM	.28	.83	1.96	4.18	1.29	2.85	1.83	3.13	1.25	1.26	1.85	.42
IN.	.32	.93	2.26	4.83	1.34	3.29	2.04	3.61	1.39	1.45	2.13	.46

CAL YR 1977 TOTAL 4242.34 MEAN 11.6 MAX 307 MIN .03 CFSM .63 IN 8.53
WTR YR 1978 TOTAL 11967.58 MEAN 32.8 MAX 360 MIN .03 CFSM 1.77 IN 24.06

01661500 ST. MARYS RIVER AT GREAT MILLS, MD

LOCATION.--Lat 38°14'36", long 76°30'13", St. Marys County, Hydrologic Unit 02070011, on left bank at downstream side of bridge on State Highway 471 in Great Mills, 0.3 mi (0.5 km) downstream from Western Branch, and 12.0 mi (19.3 km) upstream from mouth.

DRAINAGE AREA.--24.0 mi² (62.2 km²).

PERIOD OF RECORD.--June 1946 to current year.

REVISED RECORDS.--WSP 1702: 1946, 1948-49, 1955, 1957-58.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 10 ft (3 m), from topographic map.

REMARKS.--Records excellent. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--32 years, 23.2 ft³/s (0.657 m³/s), 13.13 in/yr (334 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,950 ft³/s (225 m³/s) Aug. 20, 1969, gage height, 13.34 ft (4.066 m), from rating curve extended above 1,500 ft³/s (42.5 m³/s) on basis of contracted-opening measurement at gage height 12.08 ft (3.682 m); minimum, 0.2 ft³/s (0.006 m³/s) Sept. 7, 1966, gage height, 1.13 ft (0.344 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft³/s (11.3 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 18	2000	459	13.0	4.93	1.503	Mar. 27	1000	632	17.9	6.07	1.850
Jan. 18	0300	*934	26.5	7.62	2.323	May 5	0230	424	12.0	4.69	1.430

Minimum discharge, 1.3 ft³/s (0.037 m³/s) Oct. 3, 4, gage height 1.23 ft (0.375 m)

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	3.6	16	50	32	16	46	37	15	7.7	73	99
2	1.7	4.4	14	36	30	16	36	30	13	7.3	29	27
3	1.4	7.1	12	28	27	18	30	26	16	96	21	17
4	1.4	13	10	22	26	18	28	107	20	41	18	14
5	1.6	7.9	23	20	23	17	26	270	14	22	19	11
6	1.4	23	38	20	24	16	23	167	12	16	15	9.1
7	1.5	82	23	26	23	15	46	102	15	12	22	7.8
8	1.6	21	16	45	22	17	30	80	46	10	14	6.8
9	4.9	13	16	255	22	20	25	171	32	8.9	11	6.3
10	5.0	10	13	140	21	96	23	124	18	8.7	9.4	5.5
11	3.6	13	11	75	20	194	23	72	14	15	9.4	5.1
12	2.9	9.6	11	48	20	163	22	51	12	10	9.2	4.9
13	2.2	8.3	10	73	20	125	20	41	12	7.8	26	4.6
14	5.3	7.5	18	289	20	108	18	47	11	7.3	31	4.4
15	12	7.1	60	168	20	144	17	81	9.5	7.7	13	4.1
16	6.0	7.1	31	96	20	87	16	116	8.7	9.5	11	4.2
17	4.1	7.1	23	200	19	64	16	94	9.1	12	9.3	4.0
18	3.3	7.1	232	464	21	47	16	60	11	18	7.7	3.9
19	2.9	6.7	304	183	23	37	30	44	9.6	9.7	6.8	3.8
20	2.4	6.3	163	284	22	30	64	34	11	7.9	6.1	3.6
21	2.4	6.3	163	210	20	28	33	27	13	6.9	5.2	3.5
22	2.4	8.7	112	125	20	24	27	22	27	6.2	4.8	3.5
23	2.4	29	67	80	18	21	23	19	14	5.7	4.5	3.7
24	2.4	28	45	57	17	21	21	19	11	5.1	4.3	3.7
25	2.4	18	38	130	18	19	19	20	8.9	19	4.2	3.6
26	24	24	29	292	17	274	64	16	8.3	31	4.1	3.3
27	75	17	23	185	16	494	230	15	12	12	4.0	3.2
28	15	13	20	110	16	226	121	15	14	11	4.0	3.2
29	7.1	12	17	70	---	146	71	15	9.8	9.2	3.9	3.0
30	4.7	11	20	50	---	88	50	15	9.2	12	3.7	3.0
31	3.8	---	90	41	---	60	---	14	---	66	25	---
TOTAL	208.5	431.8	1668	3872	597	2649	1214	1951	436.1	518.6	428.6	279.8
MEAN	6.73	14.4	53.8	125	21.3	85.5	40.5	62.9	14.5	16.7	13.8	9.33
MAX	75	82	304	464	32	494	230	270	46	96	73	99
MIN	1.4	3.6	10	20	16	15	16	14	8.3	5.1	3.7	3.0
CFSM	.28	.60	2.24	5.21	.89	3.56	1.69	2.62	.60	.70	.58	.39
IN.	.32	.67	2.59	6.00	.93	4.11	1.88	3.02	.68	.80	.66	.43

CAL YR 1977 TOTAL 5202.5 MEAN 14.3 MAX 304 MIN 1.1 CFSM .60 IN 8.06
WTR YR 1978 TOTAL 14254.4 MEAN 39.1 MAX 494 MIN 1.4 CFSM 1.63 IN 22.09

OHIO RIVER BASIN

MONONGAHELA RIVER BASIN

03075500 YOUGHIOGHENY RIVER NEAR OAKLAND, MD

LOCATION.--Lat 39°25'19", long 79°25'32", Garrett County, Hydrologic Unit 05020006, on left bank 200 ft (61 m) downstream from Baltimore and Ohio Railroad bridge, 250 ft (76 m) downstream from Little Youghiogheny River, 1.2 mi (1.9 km) northwest of Oakland, and 1.5 mi (2.4 km) upstream from Dunkard Lick Run.

DRAINAGE AREA.--134 mi² (347 km²).

PERIOD OF RECORD.--August 1941 to current year.

REVISED RECORDS.--WSP 1113: 1947(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,353.61 ft (717.380 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 1, 1946, nonrecording gage at bridge 200 ft (61 m) upstream at same datum.

REMARKS.--Records good except those for period of no gage-height record, Dec. 27 to Feb. 16, which are fair. Town of Oakland diverted an average of 0.4 ft³/s (0.011 m³/s) for water supply. The diversion is returned above station as sewage. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--37 years, 293 ft³/s (8.298 m³/s), 29.69 in/yr (754 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,800 ft³/s (334 m³/s) Oct. 16, 1954, gage height, 12.16 ft (3.706 m); minimum daily, 2.5 ft³/s (0.071 m³/s) Oct. 4, 1953.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a stage of 15.3 ft (4.66 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s (56 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 1	1000	3020	85.5	6.39	1.948	Mar. 22	0630	3770	107	7.05	2.149
Jan. 26	Unknown	2440	69.1	5.83	1.777	July 3	2045	*8670	246	10.43	3.179
Mar. 15	1000	3900	110	ice jam							

Minimum discharge, 26 ft³/s (0.74 m³/s) Sept. 30, gage height 2.00 ft (0.610 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	74	2690	165	280	62	893	197	138	257	375	235
2	997	73	1520	155	250	60	902	170	114	360	247	110
3	669	77	886	145	230	58	670	147	166	4480	205	82
4	445	75	689	140	220	56	539	210	189	4760	312	127
5	302	80	671	135	200	54	793	861	120	1370	235	82
6	278	136	744	130	190	53	594	720	118	703	309	64
7	267	158	534	125	180	52	972	554	116	470	329	56
8	244	864	435	300	160	51	790	513	202	442	367	50
9	839	543	376	900	150	50	593	770	210	478	255	44
10	800	415	286	550	140	97	455	598	158	383	215	42
11	485	410	252	430	130	118	387	467	122	523	183	39
12	349	326	230	380	120	155	355	375	102	298	157	39
13	261	283	281	320	110	194	265	440	109	229	143	112
14	210	250	732	260	105	763	214	808	94	428	113	66
15	172	233	1190	220	100	2890	185	809	78	356	95	91
16	277	243	720	185	92	1540	161	901	69	315	83	79
17	341	332	535	165	89	844	145	907	64	726	77	164
18	245	501	573	150	87	599	151	976	59	383	69	87
19	235	373	601	140	84	599	234	796	56	281	61	68
20	268	305	589	130	83	1040	429	594	53	218	55	57
21	215	264	544	125	79	1700	644	475	53	172	50	52
22	186	294	427	135	76	3240	580	387	177	142	45	46
23	165	517	352	140	74	2060	464	324	94	121	41	44
24	144	469	329	125	72	1760	387	425	60	143	37	41
25	128	413	499	400	70	1450	371	482	50	211	36	39
26	120	493	371	1900	68	1440	429	362	51	127	35	36
27	123	404	300	1300	66	1510	378	300	700	99	33	32
28	116	375	260	800	64	1460	309	253	1070	110	34	31
29	98	361	235	600	---	1520	261	216	522	89	34	30
30	87	668	200	400	---	1320	228	184	337	284	35	27
31	80	---	180	300	---	972	---	172	---	550	500	---
TOTAL	9246	10009	18231	11350	3569	27767	13778	15393	5451	19508	4765	2072
MEAN	298	334	588	366	127	896	459	497	182	629	154	69.1
MAX	997	864	2690	1900	280	3240	972	976	1070	4760	500	235
MIN	80	73	180	125	64	50	145	147	50	89	33	27
CFSM	2.22	2.49	4.39	2.73	.95	6.69	3.43	3.71	1.36	4.69	1.15	.52
IN.	2.57	2.78	5.06	3.15	.99	7.71	3.82	4.27	1.51	5.42	1.32	.58

CAL YR 1977 TOTAL 104260 MEAN 286 MAX 2690 MIN 24 CFSM 2.13 IN 28.94
WTR YR 1978 TOTAL 141139 MEAN 387 MAX 4760 MIN 27 CFSM 2.89 IN 39.18

03076000 DEEP CREEK RESERVOIR NEAR OAKLAND, MD

LOCATION.--Lat 39°30'34", long 79°23'28", Garrett County, Hydrologic Unit 05020006, on Deep Creek at dam, 1.8 mi (2.9 km) upstream from mouth and 7.0 mi (11.3 km) north of Oakland.

DRAINAGE AREA.--64.7 mi² (167.6 km²).

PERIOD OF RECORD.--July 1925 to current year. Prior to October 1950, monthend contents published in WSP 1305, and October 1950 to September 1955, monthend contents published in WSP 1385.

GAGE.--Water-stage recorder at right end of spillway. Datum of gage is at mean sea level, unadjusted.

REMARKS.--Reservoir is formed by an earthfill dam completed January 1925, with storage beginning at that time. Usable capacity, 92,975 acre-ft (115 hm³) between elevations 2,425 ft (739.1 m), top of intake to outlet tunnel, and 2,462 ft (750.4 m), crest of spillway. Dead storage, 13,085 acre-ft (16.1 hm³). Figures given herein represent usable contents. Reservoir is used for hydroelectric power.

COOPERATION.--Elevations and capacity table furnished by Pennsylvania Electric Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 93,258 acre-ft (115 hm³) July 24, 25, 1949, elevation, 2,462.075 ft (750.440 m); minimum observed, 11,763 acre-ft (14.5 hm³) Sept. 30, 1925, elevation, 2,433.45 ft (741.716 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 90,400 acre-ft (111 hm³) May 15, elevation, 2,461.30 ft (750.204 m); minimum, 65,000 acre-ft (80.1 hm³) Mar. 10, elevation, 2,454.20 ft (748.040 m).

MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2456.3	72200	
Oct. 31	2456.1	71500	-700
Nov. 30	2457.1	75000	+3500
Dec. 31	2459.0	81900	+6900
CAL YR 1977			+12100
Jan. 31	2457.3	75700	-6200
Feb. 28	2454.7	66700	-9000
Mar. 31	2459.0	81900	+15200
Apr. 30	2460.6	87800	+5900
May 31	2460.3	86700	-1100
June 30	2460.3	86700	0
July 31	2459.8	84800	-1900
Aug. 31	2458.1	78600	-6200
Sept. 30	2457.0	74700	-3900
WTR YR 1978			+2500

03076500 YOUGHIOGHENY RIVER AT FRIENDSVILLE, MD

LOCATION.--Lat 39°39'13", long 79°24'31", Garrett County, Hydrologic Unit 05020006, on left bank 0.7 mi (1.1 km) upstream from bridge on State Highway 42 at Friendsville, and 1.5 mi (2.4 km) upstream from Bear Creek.

DRAINAGE AREA.--295 mi^2 (764 km^2).

PERIOD OF RECORD.--August 1898 to December 1904 and October 1940 to current year. October, November 1940 monthly discharge only, published in WSP 1305. September 1922 to September 1926 (gage heights only) in reports of Pennsylvania Department of Forests and Waters.

REVISED RECORDS.--WSP 1385: Drainage area at former site, 1898-1905, 1941(M), 1942, 1944-45, 1948-49, 1951(M).

GAGE.--Water-stage recorder. Datum of gage is 1,487.33 ft (453.338 m) National Geodetic Vertical Datum of 1929. Aug. 17, 1898, to Dec. 31, 1904, and Sept. 1, 1922, to Sept. 30, 1926, nonrecording gages at bridge 0.7 mi (1.1 km) downstream at datum 16.24 ft (4.950 m) and 16.29 ft (4.965 m) lower, respectively.

REMARKS.--Records good except those for winter periods which are fair. Low and medium flow regulated since July 1925 by Deep Creek Reservoir (see station 03076000). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--44 years (water years 1899-1904, 1941-78), 639 ft^3/s (18.10 m^3/s), 29.42 in/yr (747 mm/yr), adjusted for storage since October 1940.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft^3/s (368 m^3/s) Oct. 16, 1954, gage height, 8.99 ft (2.740 m), from rating curve extended above 5,800 ft^3/s (164 m^3/s) on basis of slope-area measurement of peak flow; minimum daily, 8.2 ft^3/s (0.23 m^3/s) Sept. 11, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1898, 14.2 ft (4.33 m) Mar. 29, 1924, from floodmarks, site and datum then in use or 10.2 ft (3.11 m), present site and datum; discharge, about 15,600 ft^3/s (440 m^3/s), from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,390 ft^3/s (238 m^3/s) July 3, gage height, 7.21 ft (2.198 m); minimum, 50 ft^3/s (1.42 m^3/s) Sept. 30, gage height, 2.00 ft (0.610 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	175	224	4460	360	1010	290	1680	537	496	407	839	579
2	925	219	3350	340	897	297	1790	484	445	356	361	220
3	1180	231	2430	445	745	289	1490	449	338	3690	284	159
4	729	223	1920	530	630	200	1220	443	419	6110	589	171
5	530	150	1500	470	560	135	1750	1400	432	2320	363	257
6	468	185	1470	461	800	215	1460	1180	394	1280	505	203
7	511	299	1320	312	602	228	2240	894	392	933	657	195
8	346	971	945	502	462	203	1690	879	538	618	775	179
9	1230	853	845	1850	446	193	1190	1340	585	876	599	95
10	1590	640	681	1180	386	224	1050	1140	326	743	556	90
11	950	673	480	994	300	228	906	922	268	1120	520	159
12	702	486	530	843	250	256	869	776	332	737	254	167
13	551	423	612	723	385	380	704	737	331	653	250	203
14	455	483	982	565	338	1240	608	1380	307	1020	407	226
15	331	431	2410	520	400	3660	427	1720	273	803	374	229
16	408	458	1580	630	446	2790	339	2160	246	748	346	163
17	687	532	1010	600	472	1550	404	2360	146	1720	331	167
18	520	921	971	556	208	992	443	2850	140	1070	321	252
19	462	641	1240	561	190	848	580	2320	225	838	140	250
20	499	523	1120	527	350	1630	803	1580	116	709	130	183
21	442	533	1160	327	405	2710	1330	1280	212	631	282	179
22	318	530	936	345	355	4920	1090	1090	290	494	229	179
23	286	866	797	632	320	3530	868	918	340	259	220	92
24	333	751	557	609	295	3010	802	1040	156	441	291	83
25	320	748	829	1070	195	2470	826	1310	132	533	304	140
26	297	824	882	3260	150	2160	845	1020	209	492	87	226
27	300	714	771	3010	225	2510	806	710	982	428	95	175
28	293	761	630	2070	324	2590	688	633	1680	437	159	171
29	199	724	675	1300	---	2770	531	573	977	197	167	171
30	184	963	555	1210	---	2550	397	590	631	235	163	63
31	239	---	404	1140	---	2030	---	606	---	970	794	---
TOTAL	16460	16980	38052	27942	12146	47098	29826	35321	12358	31868	11392	5626
MEAN	531	566	1227	901	434	1519	994	1139	412	1028	367	188
MAX	1590	971	4460	3260	1010	4920	2240	2850	1680	6110	839	579
MIN	175	150	404	312	150	135	339	443	116	197	87	63
(≠)	-11.4	+59.0	+112	-101	-162	+247	+99.3	-17.9	0	-30.9	-101	-65.5
MEAN≠	520	625	1339	800	272	1766	1093	1121	412	997	266	122
CFSM≠	1.76	2.12	4.54	2.71	0.92	5.99	3.70	3.80	1.40	3.38	0.90	0.41
IN≠	2.03	2.36	5.23	3.12	0.96	6.91	4.13	4.38	1.56	3.90	1.04	0.46

CAL YR 1977 TOTAL 210072 MEAN 576 MAX 4460 MIN 47 MEAN≠ 593 CFSM≠ 2.01 IN≠ 27.29
WTR YR 1978 TOTAL 285069 MEAN 781 MAX 6110 MIN 63 MEAN≠ 784 CFSM≠ 2.66 IN≠ 36.08

≠ Change in contents, equivalent in cubic feet per second, in Deep Creek Reservoir furnished by Pennsylvania Electric Co.

≠ Adjusted for change in contents.

03076600 BEAR CREEK AT FRIENDSVILLE, MD

LOCATION.--Lat 39°39'22", long 79°23'41", Garrett County, Hydrologic Unit 05020006, on right bank 0.2 mi (0.3 km) downstream from bridge on Accident-Friendsville Road, 0.6 mi (1.0 km) downstream from South Branch Bear Creek, 0.8 mi (1.3 km) southeast of Friendsville, and 1.2 mi (1.9 km) upstream from mouth.

DRAINAGE AREA.--48.9 mi^2 (126.7 km^2).

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,551.34 ft (472.848 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter periods, which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--14 years, 85.4 ft^3/s (2.419 m^3/s), 23.72 in/yr (602 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,650 ft^3/s (132 m^3/s) Sept. 14, 1971, gage height, 9.6 ft (2.93 m), from floodmarks, from rating curve extended above 2,000 ft^3/s (56.6 m^3/s) on basis of slope-area measurement of peak flow; minimum, 1.5 ft^3/s (0.042 m^3/s) Sept. 12, 1966, gage height, 0.42 ft (0.128 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 600 ft^3/s (17 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 1	0115	*1600	45.3	4.93	1.503	May 17	2115	782	22.1	3.62	1.103
Jan. 26	0600	992	28.1	3.94	1.201	July 10	0830	853	24.2	3.73	1.137
Mar. 14	1815	1440	40.8	4.68	1.426	July 16	1930	707	20.0	3.51	1.070
Mar. 21	2145	1430	40.5	4.67	1.423						

Minimum discharge, 15 ft^3/s (0.42 m^3/s) Sept. 30, gage height, 1.10 ft (0.335 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	29	924	66	105	26	354	59	56	62	68	130
2	52	31	473	61	98	25	347	54	50	56	54	80
3	52	34	330	52	90	25	302	50	79	306	50	60
4	47	40	233	52	84	25	275	57	62	301	52	65
5	39	48	166	60	79	25	406	105	49	196	101	48
6	41	100	149	52	74	24	375	91	45	125	111	40
7	36	110	113	49	70	24	490	86	51	93	112	34
8	34	140	105	135	63	24	435	90	66	80	101	30
9	140	110	96	375	57	25	326	157	59	68	77	28
10	120	110	66	255	52	34	249	156	50	303	188	26
11	85	120	62	155	47	41	168	141	46	197	141	26
12	65	110	60	130	43	55	133	122	42	119	111	26
13	50	96	60	110	39	100	109	198	47	88	93	56
14	45	80	160	93	35	710	90	323	39	108	72	31
15	42	65	377	80	32	773	79	372	35	80	58	34
16	89	60	273	76	31	393	71	482	31	200	49	31
17	86	75	205	71	31	286	65	623	31	296	43	28
18	64	115	205	66	31	192	64	651	28	142	38	25
19	58	96	200	62	30	207	76	460	28	95	35	22
20	54	85	187	53	30	326	93	346	26	74	31	21
21	49	76	156	59	30	730	112	261	29	60	28	20
22	44	71	127	50	29	843	122	162	110	52	26	36
23	41	75	108	50	29	530	117	130	52	46	25	28
24	39	78	101	60	28	406	110	146	41	52	23	25
25	37	83	166	180	28	352	104	131	34	50	22	24
26	35	110	135	687	27	348	96	109	41	40	22	21
27	38	104	120	398	26	381	84	97	159	39	21	20
28	37	100	100	274	26	444	76	87	242	58	22	18
29	35	88	86	177	---	498	69	78	117	37	22	16
30	33	165	80	130	---	446	65	70	80	35	23	15
31	31	---	72	115	---	375	---	63	---	94	500	---
TOTAL	1651	2604	5695	4233	1344	8693	5462	5957	1825	3552	2319	1064
MEAN	53.3	86.8	184	137	48.0	280	182	192	60.8	115	74.8	35.5
MAX	140	165	924	687	105	843	490	651	242	306	500	130
MIN	31	29	60	49	26	24	64	50	26	35	21	15
CFSM	1.09	1.78	3.76	2.80	.98	5.73	3.72	3.93	1.24	2.35	1.53	.73
IN.	1.26	1.98	4.33	3.22	1.02	6.61	4.16	4.53	1.39	2.70	1.76	.81

CAL YR 1977 TOTAL 31728.4 MEAN 86.9 MAX 924 MIN 8.0 CFSM 1.78 IN 24.14
WTR YR 1978 TOTAL 44399.0 MEAN 122 MAX 924 MIN 15 CFSM 2.50 IN 33.78

03078000 CASSELMAN RIVER AT GRANTSVILLE, MD

LOCATION.--Lat 39°42'08", long 79°08'12", Garrett County, Hydrologic Unit 05020006, on left bank at downstream side of highway bridge, 0.3 mi (0.5 km) upstream from Slaubaugh Run, 0.7 mi (1.1 km) downstream from U.S. Highway 40, and 1.0 mi (1.6 km) northeast of Grantsville.

DRAINAGE AREA.--62.5 mi^2 (161.9 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1947 to current year.

REVISED RECORDS.--WSP 1143: 1948.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,088.97 ft (636.718 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for winter periods, which are fair.

AVERAGE DISCHARGE.--31 years, 118 ft^3/s (3.342 m^3/s), 25.64 in/yr (651 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,400 ft^3/s (238 m^3/s) Oct. 15, 1954, gage height. 10.70 ft (3.261 m), from rating curve extended above 1,600 ft^3/s (73.6 m^3/s) on basis of contracted-opening measurement at gage height 8.13 ft (2.478 m); no flow Aug. 31, 1962, result of regulation from unknown source.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft^3/s (28 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 1	0500	1460	41.3	4.28	1.305	May 18	0200	1020	28.9	3.71	1.131
Mar. 15	0100	1280	36.2	*a4.66	1.420	July 3	1415	1170	33.1	3.90	1.189
Mar. 21	2345	*1690	47.9	4.56	1.390	July 10	1230	1250	35.4	4.01	1.222

a Ice jam.

Minimum discharge, 9.5 ft^3/s (0.27 m^3/s) Aug. 27, gage height, 1.14 ft (0.347 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	33	1140	96	140	33	556	73	102	42	66	133
2	60	35	633	82	125	33	610	68	82	47	42	66
3	64	40	338	70	115	33	501	64	141	679	33	49
4	55	47	261	70	105	33	438	73	134	408	44	52
5	42	65	215	84	99	32	710	298	88	202	34	39
6	42	160	205	67	93	32	454	196	74	129	37	32
7	48	178	150	64	86	32	667	138	80	96	56	27
8	42	275	140	156	81	32	419	141	134	82	69	25
9	247	172	131	472	75	36	294	339	110	76	39	22
10	160	171	99	155	70	45	234	221	74	536	88	21
11	88	182	98	140	64	55	198	162	63	231	66	19
12	67	134	96	125	58	90	173	137	54	129	69	32
13	57	113	113	115	52	140	143	298	59	96	139	69
14	51	101	271	103	47	540	121	556	52	90	68	38
15	48	97	502	97	52	990	106	463	45	82	50	53
16	102	97	261	88	50	451	95	629	40	82	41	43
17	109	156	208	79	47	250	88	768	37	129	34	38
18	73	184	390	77	44	181	90	823	34	73	29	31
19	63	123	347	75	42	226	156	565	31	57	25	25
20	59	103	256	68	40	352	200	351	31	48	22	23
21	52	94	211	78	39	703	226	267	36	42	18	21
22	48	98	1	66	38	1120	191	205	219	39	16	33
23	44	125	145	66	37	745	151	171	88	37	14	31
24	41	135	145	80	40	655	132	239	49	39	13	25
25	39	123	325	260	42	527	120	254	38	52	12	22
26	39	134	190	780	38	457	119	168	38	39	12	19
27	46	113	146	513	35	511	105	139	115	34	11	17
28	44	107	124	315	34	652	91	122	198	60	14	17
29	39	102	115	250	---	732	82	106	76	37	15	15
30	36	147	110	180	---	593	77	146	52	41	32	14
31	34	---	109	160	---	467	---	174	---	106	578	---
TOTAL	1973	3644	7644	5031	1788	10780	7547	8354	2374	3840	1786	1051
MEAN	63.6	121	247	162	63.9	348	252	269	79.1	124	57.6	35.0
MAX	247	275	1140	780	140	1120	710	823	219	679	578	133
MIN	34	33	96	64	34	32	77	64	31	34	11	14
CFSM	1.02	1.94	3.95	2.59	1.02	5.57	4.03	4.30	1.27	1.98	.92	.56
IN.	1.17	2.17	4.55	2.99	1.06	6.42	4.49	4.97	1.41	2.29	1.06	.63

CAL YR 1977 TOTAL 40070.0 MEAN 110 MAX 1140 MIN 8.2 CFSM 1.76 IN 23.85
WTR YR 1978 TOTAL 55812.0 MEAN 153 MAX 1140 MIN 11 CFSM 2.45 IN 33.22

03078000 CASSELMAN RIVER AT GRANTSVILLE, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT									
06...	1300	47	150	7.6	11.5	11.0	--	--	--
NOV									
17...	1330	126	170	7.0	8.0	8.5	--	--	--
DEC									
06...	1050	209	--	--	-5.0	2.5	--	--	--
JAN									
04...	1235	46	--	--	3.0	1.0	--	--	--
11...	0855	141	--	--	-16.0	.0	--	--	--
FEB									
27...	1405	35	135	7.0	-2.5	.5	10	40	26
MAR									
27...	1415	465	--	--	4.0	3.0	--	--	--
27...	1430	465	120	6.6	4.0	3.0	10	34	21
JUN									
27...	1710	118	90	7.7	29.5	22.5	--	--	--
AUG									
11...	1355	62	119	6.8	23.0	24.0	--	--	--
SEP									
18...	1400	30	--	--	26.0	22.0	--	--	--
21...	1045	--	160	9.0	--	20.5	5	56	31

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT									
06...	--	--	--	--	--	--	--	--	--
NOV									
17...	--	--	--	--	--	--	--	--	--
DEC									
06...	--	--	--	--	--	--	--	--	--
JAN									
04...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
FEB									
27...	11	3.0	6.3	.9	17	14	24	13	.1
MAR									
27...	--	--	--	--	--	--	--	--	--
27...	10	2.1	7.0	1.3	15	12	18	14	.1
JUN									
27...	--	--	--	--	--	--	--	--	--
AUG									
11...	--	--	--	--	--	--	--	--	--
SEP									
18...	--	--	--	--	--	--	--	--	--
21...	16	3.9	4.7	1.5	30	25	30	10	.1

03078000 CASSELMAN RIVER AT GRANTSVILLE, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT									
06...	--	--	--	--	--	--	--	--	--
NOV									
17...	--	--	--	--	--	--	--	--	--
DEC									
06...	--	--	--	--	--	--	--	--	--
JAN									
04...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
FEB									
27...	4.4	86	71	.55	.00	210	70	110	90
MAR									
27...	--	--	--	--	--	--	--	--	--
27...	3.6	77	64	.96	.03	700	0	160	20
JUN									
27...	--	--	--	--	--	--	--	--	--
AUG									
11...	--	--	--	--	--	--	--	--	--
SEP									
18...	--	--	--	--	--	--	--	--	--
21...	3.4	94	84	.25	.03	480	20	40	30

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

BUSH RIVER BASIN

01581700 - WINTERS RUN NEAR BENSON, MD. (LAT 39 31 12 LONG 076 22 24)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
NOV , 1977 14...	1230	24	5.5	6.0	MAY , 1978 04...	1345	49	11.0	9.0
DEC 19...	1230	193	4.0	4.0	SEP 12...	1010	23	20.5	28.0
JAN , 1978 23...	1300	59	.0	-1.0					

GUNPOWDER RIVER BASIN

01582000 - LITTLE FALLS AT BLUE MOUNT, MD. (LAT 39 36 16 LONG 076 37 16)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
NOV , 1977 15...	1000	38	5.0	5.0	MAR , 1978 09...	1330	58	1.5	1.5
DEC 12...	1030	32	.0	-3.0	APR 27...	1000	91	8.5	11.0
JAN , 1978 19...	1030	98	1.0	-2.0	SEP 05...	1145	39	18.0	21.0

01583000 - SLADE RUN NEAR GLYNDON, MD. (LAT 39 29 40 LONG 076 47 45)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
NOV , 1977 14...	1115	1.2	6.5	8.0	MAR , 1978 22...	1630	4.8	11.5	17.0
DEC 12...	1645	1.2	1.0	.0	APR 28...	0945	2.6	11.0	16.5
JAN , 1978 23...	1545	2.4	2.0	3.0	JUN 13...	0930	3.2	16.5	18.5
FEB 24...	1100	1.9	2.0	1.0	JUL 19...	1015	1.7	19.0	30.5

01583500 - WESTERN RUN AT WESTERN RUN, MD. (LAT 39 30 38 LONG 076 40 37)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
NOV , 1977 17...	1230	41	11.0	19.0	MAR , 1978 09...	1100	62	2.0	-.5
DEC 12...	1315	61	.0	.0	APR 27...	1445	88	10.0	13.0
JAN , 1978 17...	1300	80	.5	-1.0	SEP 06...	1300	36	21.0	24.0
FEB 09...	1400	126	.0	-.5					

01584050 - LONG GREEN CREEK AT GLEN ARM, MD. (LAT 39 27 17 LONG 076 28 45.01)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
NOV , 1977 14...	1000	5.2	5.0	3.5	MAR , 1978 23...	1500	17	12.0	18.0
DEC 15...	1530	8.8	7.0	6.0	MAY 02...	1400	10	14.0	14.0
JAN , 1978 19...	1500	16	3.0	-3.0	SEP 06...	1520	9.6	20.5	24.5

01585100 - WHITEMARSH RUN AT WHITE MARSH, MD. (LAT 39 22 15 LONG 076 26 46)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
NOV , 1977 17...	1430	5.0	14.0	18.0	MAR , 1978 23...	1245	7.4	14.0	19.0
DEC 15...	1315	13	6.0	8.0	APR 28...	1445	4.1	19.0	20.0
JAN , 1978 18...	1130	64	1.5	1.0	SEP 13...	1320	11	22.0	19.5
FEB 21...	1445	6.4	3.5	2.0					

BACK RIVER BASIN

01585200 - WEST BRANCH HERRING RUN AT IDLEWYLDE, MD. (LAT 39 22 25 LONG 076 35 35)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
NOV , 1977 17...	0900	.90	11.0	13.0	MAR , 1978 24...	1500	1.6	11.0	10.0
JAN , 1978 24...	0915	1.5	.0	-6.0	MAY 02...	1145	1.2	13.0	13.0
FEB 22...	0915	1.5	.0	-5.0	SEP 06...	0940	.82	20.0	24.0

TEMPERATURE MEASUREMENTS AT GAGING STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

BACK RIVER BASIN--CONTINUED

01585300 - STEMMERS RUN AT ROSSVILLE, MD. (LAT 39 20 28 LONG 076 29 17)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
NOV , 1977 21...	1430	1.3	9.0	10.0	MAR , 1978 23...	1100	3.5	11.0	16.0
DEC 15...	1145	7.4	6.0	8.0	APR 28...	1200	1.8	16.0	17.0
JAN , 1978 18...	1530	39	2.0	1.0	SEP 13...	0935	3.2	20.0	16.0
FEB 21...	1030	2.9	.5	.0					

01585400 - BRIEN RUN AT STEMMERS RUN, MD. (LAT 39 20 01 LONG 076 28 23)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
NOV , 1977 22...	1055	.76	10.0	6.0	MAR , 1978 23...	0925	1.0	8.0	12.5
DEC 15...	0930	4.7	5.0	8.0	APR 28...	0925	.54	10.0	15.0
JAN , 1978 18...	1330	21	1.5	2.0	SEP 13...	1115	.78	19.0	16.0
FEB 21...	1205	.68	2.5	1.5					

PATAPSCO RIVER BASIN

01585500 - CRANBERRY BRANCH NEAR WESTMINSTER, MD. (LAT 39 35 35 LONG 076 58 05)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977 04...	1000	.28	11.5	15.0	MAR , 1978 27...	1515	15	11.5	14.5
NOV 14...	1530	.45	7.0	5.0	APR 28...	1200	2.9	13.5	18.5
DEC 12...	1130	2.4	1.0	-1.5	JUN 13...	1200	1.3	18.0	18.5
JAN , 1978 17...	1430	4.2	1.0	-2.0	JUL 19...	1255	.84	21.0	27.0
FEB 16...	1215	3.8	3.0	1.0	AUG 31...	1125	1.0	20.0	23.5

01586000 - NORTH BRANCH PATAPSCO RIVER AT CEDARHURST, MD. (LAT 39 30 00 LONG 076 53 00)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977 04...	1330	14	15.5	17.5	MAR , 1978 22...	1330	130	10.5	17.0
NOV 14...	1330	32	6.5	10.0	APR 28...	1400	59	14.5	22.0
DEC 12...	1430	56	1.0	.0	JUN 13...	1500	58	22.5	20.5
JAN , 1978 23...	1300	71	1.5	3.0	JUL 19...	1510	34	23.5	26.0
FEB 16...	1530	68	1.0	2.0	AUG 31...	1340	37	23.5	25.0

01589100 - E. BR. HERBERT RUN AT ARBUTUS, MD. (LAT 39 14 24 LONG 076 41 33)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
NOV , 1977 16...	1100	.68	9.5	14.0	MAY , 1978 01...	1000	.85	10.0	9.0
DEC 13...	1000	1.0	3.0	5.0	SEP 07...	1000	.75	22.0	23.5
MAR , 1978 24...	0930	1.4	10.0	9.0					

01589300 - GWYNNS FALLS AT VILLA NOVA, MD. (LAT 39 20 45 LONG 076 44 01)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977 27...	1000	68	15.0	17.5	MAR , 1978 24...	1300	52	10.0	10.0
NOV 16...	1500	16	9.0	14.0	MAY 01...	1430	31	15.0	13.0
DEC 13...	1500	18	1.5	4.0	SEP 07...	1445	15	23.0	28.0
JAN , 1978 25...	1030	290	1.0	1.5					

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

PATAPSCO RIVER BASIN--CONTINUED

01589330 - DEAD RUN AT FRANKLINTOWN, MD. (LAT 39 18 40 LONG 076 43 02)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
NOV , 1977				
16...	1230	1.5	9.5	14.0
DEC				
13...	1230	2.1	2.0	5.5
MAR , 1978				
24...	1100	3.4	10.0	9.0
MAY , 1978				
01...	1215	1.9	13.0	13.0
SEP				
07...	1215	1.0	23.0	27.0

01589440 - JONES FALLS AT SORRENTO, MD. (LAT 39 23 30 LONG 076 39 42)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
NOV , 1977				
17...	1045	15	11.0	15.0
DEC				
16...	1430	20	5.0	6.0
19...	0930	193	4.0	3.0
JAN , 1978				
17...	1030	30	1.0	-2.0
FEB				
16...	1030	30	1.5	3.0
MAR , 1978				
09...	0930	25	2.0	-1.0
MAY				
02...	1000	31	9.0	8.0
SEP				
06...	1120	18	18.0	24.0

PATUXENT RIVER BASIN

01590500 - BACON RIDGE BRANCH AT CHESTERFIELD, MD. (LAT 39 00 07 LONG 076 36 53)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977				
07...	1110	2.1	10.5	14.0
NOV				
14...	1120	4.4	4.5	4.5
DEC				
13...	1010	4.7	3.0	4.0
FEB , 1978				
02...	1150	7.5	1.0	-3.0
MAY , 1978				
08...	1445	8.7	13.0	13.0
JUN				
14...	1230	5.1	14.0	17.5
JUL				
24...	1700	2.9	22.0	24.0

01591000 - PATUXENT RIVER NEAR UNITY, MD. (LAT 39 14 18 LONG 077 03 23)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977				
05...	1400	4.8	12.0	18.0
27...	1100	74	14.0	17.5
NOV				
15...	1200	19	6.5	11.0
DEC				
13...	1330	24	1.0	5.0
19...	1230	167	4.5	3.0
FEB , 1978				
23...	1330	51	1.0	-.5
MAR , 1978				
24...	1200	58	10.0	16.5
27...	1000	254	7.0	9.5
MAY				
08...	1100	37	12.0	10.5
JUN				
19...	1200	31	20.0	26.5
SEP				
08...	1010	16	19.5	21.5

01592500 - PATUXENT RIVER NEAR LAUREL, MD. (LAT 39 06 56 LONG 076 52 27)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977				
19...	1200	18	16.0	15.5
DEC				
12...	1400	16	5.5	1.0
MAR , 1978				
07...	1315	26	3.0	2.5
JUN				
19...	1215	23	26.5	32.0

01593500 - LITTLE PATUXENT RIVER AT GUILFORD, MD. (LAT 39 10 04 LONG 076 51 07)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977				
17...	1030	82	8.5	8.0
NOV				
21...	1030	19	7.5	8.0
DEC				
12...	1000	25	.0	-2.0
JAN , 1978				
16...	1500	43	1.0	-1.0
FEB				
27...	1500	38	3.5	.5
MAR , 1978				
30...	1030	62	8.5	10.0
MAY				
01...	1300	29	15.5	14.0
JUN				
19...	1700	24	26.5	27.5
AUG				
30...	1200	15	24.5	26.0

01594000 - LITTLE PATUXENT RIVER AT SAVAGE, MD. (LAT 39 08 00 LONG 076 48 58)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977				
17...	1230	133	9.0	9.0
NOV				
21...	1300	51	7.0	10.0
FEB , 1978				
27...	1300	117	2.5	3.5
MAR				
30...	1330	183	10.5	8.5
MAY , 1978				
05...	1045	247	11.0	9.0
JUN				
19...	1530	73	27.5	30.0
AUG				
29...	1600	57	27.5	29.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

POTOMAC RIVER BASIN

01595000 - NORTH BRANCH POTOMAC RIVER AT STEYER, MD. (LAT 39 18 07 LONG 079 18 26)

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	TEMPERATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	TEMPERATURE, AIR (DEG C)
OCT , 1977					FEB , 1978				
13...	1145	81	7.0	6.5	17...	1145	62	.5	.0
NOV					MAR				
18...	1300	268	5.0	1.0	29...	0930	813	5.5	7.5
JAN , 1978					MAY				
12...	1255	166	.5	-1.5	17...	1300	466	9.5	10.0

01595500 - N B POTOMAC R AT KITZMILLER, MD. (LAT 39 23 38 LONG 079 10 55)

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	TEMPERATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	TEMPERATURE, AIR (DEG C)
OCT , 1977					FEB , 1978				
03...	1130	170	12.5	8.5	01...	1000	309	.5	-11.0
NOV					MAR				
01...	1050	87	8.0	10.0	01...	1045	141	.0	.5
08...	1155	4370	15.5	14.0	31...	0810	1410	5.5	6.0
DEC					MAY				
01...	0900	2500	5.0	2.0	01...	1250	365	10.0	7.0
JAN , 1978									
03...	1140	184	.0	-7.0					

01596500 - SAVAGE RIVER NEAR BARTON, MD. (LAT 39 34 05 LONG 079 06 10)

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	TEMPERATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	TEMPERATURE, AIR (DEG C)
OCT , 1977					JAN , 1978				
06...	1120	5.5	10.5	11.0	06...	1245	37	.5	2.0
NOV					MAR				
17...	1105	41	8.5	14.0	27...	1235	289	4.0	2.5
DEC					JUN				
01...	1440	668	7.0	7.0	27...	1230	30	20.0	22.0

01597000 - CRABTREE CREEK NEAR SWANTON, MD. (LAT 39 30 00 LONG 079 09 35)

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	TEMPERATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	TEMPERATURE, AIR (DEG C)
OCT , 1977					FEB , 1978				
06...	0920	2.4	11.0	10.5	14...	1210	11	1.0	-.5
NOV					MAR				
17...	0940	17	8.5	12.0	27...	1040	94	5.0	3.5
DEC					MAY				
01...	1305	175	7.5	--	15...	1415	133	9.5	10.5
JAN , 1978					JUN				
06...	1430	13	2.5	2.5	27...	1010	26	16.0	21.0

01597500 - SAVAGE R. BELOW SAVAGE R DAM, NR BLOOMINGTON, M (LAT 39 30 05 LONG 079 07 25)

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	TEMPERATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	TEMPERATURE, AIR (DEG C)
OCT , 1977					FEB , 1978				
03...	1040	65	15.0	9.0	01...	1115	85	1.0	-3.0
NOV					MAR				
01...	1315	86	13.5	10.5	01...	1200	40	1.5	-1.0
DEC					31...	1140	1040	5.0	5.0
01...	1605	514	6.0	9.5	MAY				
06...	0935	469	5.5	-1.0	01...	1440	54	8.5	11.0

01598500 - NORTH BRANCH POTOMAC RIVER AT LUKE MD. (LAT 39 28 45 LONG 079 03 55)

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	TEMPERATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	TEMPERATURE, AIR (DEG C)
OCT , 1977					FEB , 1978				
03...	0850	310	13.5	8.5	01...	1255	555	.5	-1.5
NOV					MAR				
01...	0810	191	9.3	10.5	01...	1225	--	.0	--
DEC					31...	1240	3060	6.0	10.0
01...	1130	3450	5.5	7.5	MAY				
JAN , 1978					01...	1520	509	12.0	10.5
03...	1400	792	.0	--					

01599000 - GEORGES CREEK AT FRANKLIN, MD. (LAT 39 29 38 LONG 079 02 42)

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	TEMPERATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	TEMPERATURE, AIR (DEG C)
OCT , 1977					FEB , 1978				
03...	0925	9.1	11.0	8.0	02...	1000	78	.0	-4.5
NOV					MAR				
01...	1510	8.0	11.0	10.0	30...	1035	584	5.5	5.0
DEC					MAY				
01...	0950	360	4.5	5.0	01...	1745	54	13.0	11.0
JAN , 1978					JUL				
03...	0950	46	.5	-5.0	06...	1150	73	17.5	21.5

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

POTOMAC RIVER BASIN--CONTINUED

01601500 - WILLS CREEK NEAR CUMBERLAND, MD. (LAT 39 40 07 LONG 078 47 18)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977					JAN , 1978				
05...	1215	40	11.5	9.0	05...	1500	188	.5	-4.0
NOV					MAR				
18...	1110	241	7.5	9.5	24...	1135	2350	7.0	9.5
DEC					JUN				
06...	1150	535	3.0	-2.0	26...	1730	79	20.0	25.0

01603500 - EVITTS CR NR CENTERVILLE, PA. (LAT 39 47 23 LONG 078 38 48)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977					FEB , 1978				
05...	0935	4.9	8.5	5.5	09...	1115	20	.5	-1.5
NOV					MAR				
18...	0930	23	6.5	6.0	24...	0910	172	6.5	6.0
DEC					JUN				
06...	0915	44	3.0	-1.0	26...	1400	10	18.5	22.0
JAN , 1978									
05...	1310	23	.0	-3.0					
26...	1335	190	.0	-3.0					

01609000 - TOWN CREEK NEAR OLDTOWN, MD. (LAT 39 33 12 LONG 078 33 19)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977					FEB , 1978				
05...	1410	12	11.5	16.5	24...	1415	--	1.0	2.0
NOV					MAR				
21...	0925	53	6.5	7.0	24...	1355	670	9.0	12.0
JAN , 1978					MAY				
05...	0850	84	.0	-7.0	16...	1040	2630	11.0	12.0
19...	1340	78	.0	-5.0					

01610000 - POTOMAC RIVER AT PAW PAW, W. VA. (LAT 39 32 13 LONG 078 27 28.01)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977					FEB , 1978				
20...	1525	740	11.5	14.5	22...	1140	1530	1.0	-4.5
NOV					MAR				
23...	0845	1680	8.0	4.0	23...	1145	21500	7.5	16.0
DEC					APR				
02...	1220	18900	7.0	10.0	24...	1335	3030	11.5	21.0
JAN , 1978									
24...	1340	1460	.5	2.0					

01617800 - MARSH RUN AT GRIMES, MD. (LAT 39 30 53 LONG 077 46 38)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977					JAN , 1978				
06...	1205	5.7	12.0	14.0	11...	1135	18	.0	-10.0
NOV					FEB				
21...	0955	6.8	8.5	9.5	23...	0940	15	2.0	-4.5

01618000 - POTOMAC RIVER AT SHEPHERDSTOWN, W. VA. (LAT 39 26 04 LONG 077 48 07)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977					JAN , 1978				
12...	1000	1590	15.0	12.0	12...	1420	9270	.0	-3.0
NOV					FEB				
21...	1250	3270	8.5	10.5	23...	1030	2630	1.5	-4.0

01619000 - ANTIETAM CREEK NEAR WAYNESBORO, PA. (LAT 39 42 59 LONG 077 36 28)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977					FEB , 1978				
06...	1045	65	11.0	15.0	23...	1325	100	4.0	-1.0
NOV					APR				
21...	1500	52	9.5	10.5	05...	1710	187	13.0	11.5
JAN , 1978									
11...	1250	192	1.0	-8.0					

01637500 - CATOCTIN CREEK NEAR MIDDLETOWN, MD. (LAT 39 25 35 LONG 077 33 25)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977					MAY , 1978				
13...	1600	6.6	12.5	11.5	03...	1500	40	16.5	18.0
JAN , 1978					JUN				
18...	1700	132	1.0	-1.5	15...	1400	35	20.5	20.0
FEB					JUL				
22...	1100	26	.0	-3.0	24...	1415	16	26.5	26.0
MAR					SEP				
29...	1350	269	11.0	18.5	14...	1420	9.8	19.0	17.5

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

POTOMAC RIVER BASIN--CONTINUED

01639500 - BIG PIPE CREEK AT BRUCEVILLE, MD. (LAT 39 36 45 LONG 077 14 10)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977					MAY , 1978				
13...	0915	14	10.5	7.5	02...	1150	72	13.0	14.0
JAN , 1978					JUN				
20...	1400	141	.5	-1.5	14...	1100	65	18.0	14.5
FEB					JUL				
28...	1230	89	1.0	.5	31...	1215	33	22.0	21.0
MAR									
30...	0950	277	8.5	6.5					

01640500 - OWENS CREEK AT LANTZ, MD. (LAT 39 40 36 LONG 077 27 50)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
NOV , 1977					MAY , 1978				
16...	1520	10	12.0	9.5	02...	1615	6.1	14.5	16.0
JAN , 1978					JUN				
19...	1245	9.9	.5	-5.0	14...	1600	5.6	16.0	18.0
MAR					JUL				
13...	1430	8.1	5.0	7.5	31...	1455	4.4	19.5	22.0
30...	1425	35	9.5	9.0					

01641000 - HUNTING CREEK AT JIMTOWN, MD. (LAT 39 35 40 LONG 077 23 50)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977					MAY , 1978				
12...	1730	3.6	13.5	10.5	03...	0900	19	9.0	10.5
NOV					JUN				
16...	1700	18	10.5	8.5	15...	0930	15	13.5	15.5
FEB , 1978					AUG				
27...	1600	17	3.5	1.0	01...	0930	8.5	20.5	20.5
MAR									
30...	1130	83	8.0	12.5					

01641500 - FISHING CREEK NEAR LEWISTOWN, MD. (LAT 39 31 35 LONG 077 28 00)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977					MAY , 1978				
14...	1015	1.2	10.0	8.5	03...	1130	11	10.0	11.5
JAN , 1978					JUN				
19...	1700	16	1.0	-3.0	15...	1145	8.9	12.5	12.5
FEB					AUG				
27...	1300	8.3	2.5	-.5	01...	1140	5.9	17.0	18.5
MAR									
29...	1615	51	9.5	18.0					

01642500 - LINGANORE CREEK NEAR FREDERICK, MD. (LAT 39 24 55 LONG 077 20 00)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977					MAR , 1978				
13...	1230	14	15.5	11.0	31...	1000	184	8.5	14.0
NOV					MAY				
18...	1430	41	9.5	10.0	03...	1730	21	14.5	17.5
JAN , 1978					JUN				
24...	1145	99	.5	--	15...	1630	75	20.0	20.0
FEB					SEP				
28...	1600	49	3.0	1.5	11...	1040	23	24.5	26.0

01643000 - MONOCACY R AT JUG BRIDGE NR FREDERICK, MD. (LAT 39 23 16 LONG 077 22 48)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977					JUN , 1978				
14...	1300	111	12.5	10.5	16...	0930	393	19.5	22.5
MAY , 1978					SEP				
04...	1130	409	14.0	9.0	11...	1410	142	23.0	26.0

01643500 - BENNETT CREEK AT PARK MILLS, MD. (LAT 39 17 40 LONG 077 24 30)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977					MAR , 1978				
21...	1530	11	11.0	14.5	28...	1230	209	10.5	13.0
NOV					MAY				
25...	1145	37	6.5	3.5	04...	0845	44	12.0	10.5
DEC					JUN				
15...	1600	62	5.5	7.0	12...	1200	50	22.0	30.0
FEB , 1978					SEP				
12...	1444	64	.5	1.5	12...	1230	18	23.0	30.0
13...	1455	65	.5	1.5					
21...	1500	67	.0	.0					

POTOMAC RIVER BASIN--CONTINUED

01645200 - WATTS BRANCH AT ROCKVILLE, MD. (LAT 39 05 03 LONG 077 10 38)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
NOV , 1977					MAY , 1978				
25...	1530	4.5	7.0	3.5	01...	1355	2.2	14.0	11.5
DEC					JUN				
14...	1200	5.3	3.0	7.5	12...	1545	2.0	22.5	26.5
MAR , 1978					SEP				
01...	1230	3.1	3.5	-.5	07...	1405	1.2	22.5	28.0
23...	1240	2.9	13.5	26.5					

01646550 - LITTLE FALLS BRANCH NEAR BETHESDA, MD. (LAT 38 57 27 LONG 077 06 31)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977					NOV , 1977				
18...	1100	.83	7.5	9.0	18...	1100	1.2	8.5	10.5

01648000 - ROCK CREEK AT SHERRILL DRIVE, WASHINGTON, D. C. (LAT 38 58 21 LONG 077 02 25)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977					MAY , 1978				
18...	1330	17	8.5	14.0	03...	1125	37	13.5	16.0
NOV					JUN				
18...	1330	27	10.0	11.5	20...	1200	26	23.5	25.5
FEB , 1978					JUL				
01...	1300	135	.0	-2.5	21...	1430	24	24.5	30.0
MAR					SEP				
06...	1200	39	1.5	2.0	06...	1100	24	20.5	24.5
31...	1200	102	9.5	14.5					

01649500 - N.E. BR. ANACOSTIA RIVER AT RIVERDALE, MD. (LAT 38 57 37 LONG 076 55 34)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977					APR , 1978				
13...	1130	11	11.0	10.5	03...	1200	67	10.0	6.0
NOV					MAY				
22...	1100	38	9.0	5.0	04...	1415	49	13.0	9.0
DEC					JUN				
15...	1030	124	5.5	8.5	15...	1600	26	27.0	24.0
JAN , 1978									
19...	1130	162	.5	-1.0					

01650500 - N W BR ANACOSTIA R NR COLESVILLE, MD (LAT 39 03 55 LONG 077 01 48)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
NOV , 1977					MAY , 1978				
22...	1430	11	8.0	5.0	08...	1200	18	13.0	12.0
DEC					JUN				
15...	1445	22	6.0	7.0	16...	1230	11	17.5	23.0
JAN , 1978					AUG				
16...	1230	30	.0	-2.5	31...	1210	21	22.5	24.5
MAR									
02...	1400	20	1.0	-1.0					
31...	1430	24	10.5	15.5					

01651000 - NORTHWEST BRANCH ANACOSTIA RIVER NEAR HYATTSVILL (LAT 38 57 09 LONG 076 58 00)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
DEC , 1977					APR , 1978				
15...	1250	52	5.5	10.5	03...	1400	42	10.5	7.5
JAN , 1978					JUL				
19...	1400	63	.5	-1.0	21...	1230	13	30.5	33.0
MAR					AUG				
02...	1100	45	1.0	.0	31...	1445	52	26.0	30.0

01653500 - HENSON CREEK AT OXON HILL, MD. (LAT 38 47 16 LONG 076 58 42)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	TEMPER-ATURE, AIR (DEG C)
OCT , 1977					MAR , 1978				
06...	1130	.38	14.0	14.0	24...	1200	13	11.0	11.5
NOV					MAY				
17...	1100	29	12.5	16.0	09...	1415	55	19.0	29.0
DEC					JUN				
14...	1430	21	5.5	13.0	21...	1200	6.2	25.5	28.5
FEB , 1978					SEP				
24...	1300	12	2.0	4.5	16...	1545	6.9	23.5	29.5

POTOMAC RIVER BASIN--CONTINUED

01653600 - PISCATAWAY CREEK AT PISCATAWAY, MD. (LAT 38 42 20 LONG 076 58 00)

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	TEMPERATURE, AIR (DEG C)
NOV , 1977				
17...	0900	36	10.5	13.5
DEC				
14...	1300	30	3.5	13.0
FEB , 1978				
24...	1000	39	.5	2.0
MAR , 1978				
24...	0900	51	10.0	13.0
JUN				
21...	1530	22	22.5	29.5
SEP				
06...	1740	5.2	21.5	23.0

01661050 - ST. CLEMENT CREEK NEAR CLEMENTS, MARYLAND (LAT 38 20 00 LONG 076 43 31)

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	TEMPERATURE, AIR (DEG C)
OCT , 1977				
05...	1330	.10	16.0	20.0
NOV				
16...	1400	5.6	8.0	17.5
DEC				
14...	1030	10	2.0	12.0
JAN , 1978				
24...	1200	51	.0	4.5
FEB , 1978				
23...	1300	22	.5	1.5
MAR				
23...	1230	25	9.5	20.0
JUN				
22...	1700	39	22.5	24.0
SEP				
07...	1520	4.7	21.5	27.0

01661500 - ST. MARYS RIVER AT GREAT MILLS, MD. (LAT 38 14 36 LONG 076 30 13)

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	TEMPERATURE, AIR (DEG C)
OCT , 1977				
05...	1000	1.5	12.5	14.0
NOV				
16...	1030	7.3	8.0	16.0
DEC				
14...	0830	11	3.0	7.0
JAN , 1978				
24...	0900	56	1.0	-3.5
FEB				
23...	0930	17	.0	-2.5
MAR , 1978				
23...	0830	23	8.5	12.5
MAY				
11...	1830	65	19.0	18.5
JUN				
23...	0930	18	21.5	23.0
JUL				
27...	0945	13	22.5	25.0
SEP				
07...	1730	7.7	23.5	26.0

MONONGAHELA RIVER BASIN

03075500 - YOUGHIOGHENY RIVER NEAR OAKLAND, MD. (LAT 39 25 19 LONG 079 25 32)

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	TEMPERATURE, AIR (DEG C)
OCT , 1977				
13...	1340	258	8.5	9.0
17...	0940	350	5.0	-2.0
JAN , 1978				
11...	1515	430	.5	-14.0
25...	1410	399	.5	3.5
FEB , 1978				
16...	1215	96	1.0	3.0
MAR				
28...	1440	1320	6.0	17.5

03076500 - YOUGHIOGHENY RIVER AT FRIENDSVILLE, MD. (LAT 39 39 13 LONG 079 24 31)

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	TEMPERATURE, AIR (DEG C)
OCT , 1977				
14...	0925	405	8.5	5.5
17...	1115	621	6.0	-2.0
NOV				
17...	1000	378	8.5	10.0
JAN , 1978				
11...	1015	745	.5	-10.0
JAN , 1978				
17...	1120	339	.5	-2.5
FEB				
15...	1130	192	1.5	-1.0
MAR				
28...	0920	2300	4.0	3.5

03076600 - BEAR CREEK AT FRIENDSVILLE, MD. (LAT 39 39 22 LONG 079 23 41)

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	TEMPERATURE (DEG C)	TEMPERATURE, AIR (DEG C)
OCT , 1977				
14...	1135	49	8.0	8.5
17...	1040	90	5.5	-2.0
NOV				
18...	1020	114	5.5	2.0
30...	1000	90	4.5	3.0
JAN , 1978				
11...	1150	145	.5	-11.0
FEB , 1978				
15...	1520	32	1.0	1.0
MAR				
28...	1230	446	6.5	10.0
JUN				
29...	1230	112	16.5	22.0

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations and the second is a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in a third table.

Low-flow partial-record stations

Measurements of streamflow in the area covered by this report made at low-flow partial-record stations are given in the following table. These measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will give a picture of the low-flow potentiality of a stream. The column headed "Period of record" shows the water years in which measurements were made at the same, or practically the same, site.

Discharge measurements made at low-flow partial-record stations during water year 1978

					Measurements	
Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Date	Discharge (ft^3/s)
		Susquehanna River basin				
01579875	Deer Creek at Gorsuch Mills, MD	Lat 39°42'21", long 76°35'15", Baltimore County, at bridge on West Liberty Road at Gorsuch Mills, and 0.8 mi downstream from Harris Mill Creek.	a25	1975-78	9-12-78	16
01579900	Big Branch at Harkins, MD	Lat 39°41'53", long 76°27'59", Harford County, at bridge on State Highway 517, 0.8 mi west of Harkins, and 1.8 mi upstream from mouth.	6.39	1975-78	9-12-78	4.1
01579925	Little Deer Creek near Federal Hill, MD	Lat 39°39'42", long 76°26'55", Harford County, at bridge on State Highway 165, 0.5 mi upstream from mouth, and 1.9 mi northeast of Federal Hill.	14.0	1975-78	9-12-78	8.8
		Gunpowder River basin				
01581830	Grave Run near Beckleysville, MD	Lat 39°39'17", long 76°46'47", Baltimore County, at bridge on Upper Beckleysville Road, 0.9 mi north of Beckleysville, and 1.7 mi downstream from Indian Run.	7.68	1977-78	9-11-78	3.9
01581870	Georges Run near Beckleysville, MD	Lat 39°37'33", long 76°46'23", Baltimore County, at bridge on Georges Creek Road, 0.6 mi upstream from mouth, and 1.2 mi south of Beckleysville.	15.8	1977-78	9-11-78	7.3
01581960	Beetree Run at Bentley Springs, MD	Lat 39°40'23", long 76°40'31", Baltimore County, at bridge on Bentley Road in Bentley Springs, and 200 feet upstream from mouth.	9.72	1975-78	9-11-78	6.8
01581980	Third Mine Branch near Stablersville, MD	Lat 39°39'27", long 76°37'24", Baltimore County, at bridge on Ensor Road, 0.6 mi northwest of Stablersville, and 2.6 mi upstream from mouth.	5.27	1975-78	9-12-78	2.7
01582900	Greene Branch at Phoenix, MD	Lat 39°30'22", long 76°36'50", Baltimore County, at bridge on Phoenix Road, 0.4 mi upstream from mouth, and 0.6 mi northwest of Phoenix.	4.45	1973, 1975-78	9-12-78	3.0
01583100	Piney Run at Dover, MD	Lat 39°31'17", long 76°46'00", Baltimore County, at bridge on State Highway 128, 0.7 mi north of Dover, and 0.8 mi upstream from mouth.	12.3	1975-78	9-11-78	6.6
		Patapsco River basin				
01585700	Deep Run at Lawndale, MD	Lat 39°32'06", long 76°52'33", Carroll County, at bridge on county highway, 0.9 mi upstream from mouth, and 1.0 mi north of Lawndale.	6.70	1975-78	9-11-78	3.0

a Approximately.

Discharge measurements made at low-flow partial-record stations during water year 1978

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Patapsco River basin--Continued				
01586550	Middle Run near Finksburg, MD	Lat 39°27'44", long 76°54'30", Carroll County, at bridge on Louisville Road, 1.0 mi upstream from Prugh Branch, and 1.5 mi east of Gamber.	6.18	1973, 1975-78	9-11-78	3.4
01586650	Little Morgan Run near Eldersburg, MD	Lat 39°25'35", long 76°57'40", Carroll County, at bridge on Bartholow Road, 0.7 mi north of Johnsville, and 0.9 mi upstream from mouth.	7.13	1973, 1976-78	9-11-78	4.0
01587070	South Branch Patapsco River at Woodbine, MD	Lat 39°21'44", long 77°04'00", Carroll County, at bridge on county highway, 0.1 mi upstream from Gillis Falls, and 0.3 mi west of Woodbine.	11.4	1975-78	9-11-78	4.7
01587170	Gillis Falls at Woodbine, MD	Lat 39°21'48", long 77°03'59", Carroll County, at bridge on dirt road, 0.2 mi upstream from mouth, and 0.3 mi northwest of Woodbine.	19.4	1975-78	9-11-78	8.3
01589080	Deep Run at Hanover, MD	Lat 39°11'24", long 76°43'12", Howard County, at bridge on county highway, 0.3 mi southeast of Hanover, and 2.4 mi upstream from mouth.	18.0	1975-78	9-16-78	1.7
01589230	Red Run near Owings Mills, MD	Lat 39°24'17", long 76°46'45", Baltimore County, at bridge on Painters Mill Road, 0.2 mi upstream from mouth, and 1.1 mi south of Owings Mills.	7.39	1975-78	9-11-78	3.7
01589370	Jones Falls at Eccleston, MD	Lat 39°24'35", long 76°43'37", Baltimore County, at bridge on State Highway 129 at Eccleston, and 1.1 mi upstream from North Branch.	2.86	1976-78	9-11-78	3.1
		Patuxent River basin				
01590900	Cabin Branch near Florence, MD	Lat 39°16'36", long 77°06'20", Howard County, at bridge on light-duty road, 0.9 mi upstream from mouth, and 2.3 mi south of Florence.	8.36	1975-78	9-21-78	5.0
01591375	Cattail Creek tributary at Daisy, MD	Lat 39°17'58", long 77°03'52", Howard County, at bridge on Daisy Road, 0.3 mi upstream from mouth, and 0.5 mi north of Daisy.	3.12	1977-78	9-21-78	2.0
01591650	Hawlings River near Unity, MD	Lat 39°13'03", long 77°06'21", Montgomery County, at bridge on Sundown Road, 2.2 mi southwest of Unity, and 5.0 mi upstream from Reddy Branch.	5.08	1977-78	9-21-78	2.0
01591700	Hawlings River near Sandy Spring, MD	Lat 39°10'29", long 77°01'22", Montgomery County, 100 ft downstream from bridge on State Highway 650, 1.0 mi upstream from mouth, and 1.7 mi north of Sandy Spring.	27.2	1975-78	9-21-78	12
01593650	Middle Patuxent River tributary near Dayton, MD	Lat 39°14'12", long 76°56'27", Howard County, at bridge on Sheppard Road, 1.6 mi upstream from mouth, and 2.5 mi east of Dayton.	4.25	1977-78	9-21-78	1.7
01593700	Middle Patuxent River tributary near Clarksville, MD	Lat 39°12'00", long 76°55'12", Howard County, 0.1 mi upstream from bridge on Trotter Road, 0.8 mi upstream from mouth, and 1.3 mi southeast of Clarksville.	6.24	1977-78	9-21-78	2.4
01594300	Towsers Branch at Conaways, MD	Lat 39°02'00", long 76°41'38", Anne Arundel County, at bridge on Evergreen Road, 0.7 mi north of Conaways, and 0.8 mi upstream from mouth.	5.69	1975-78	9-12-78	1.6
01594455	Stocketts Run near Hardesty, MD	Lat 38°52'58", long 76°39'47", Anne Arundel County, at bridge on Sands Road, 0.9 mi upstream from mouth, and 1.3 mi southeast of Hardesty.	6.68	1977-78	9-11-78	1.0
01594465	Rock Branch at Bayard, MD	Lat 38°51'17", long 76°41'16", Anne Arundel County, at bridge on Sands Road, 0.2 mi upstream from mouth, and 0.8 mi northwest of Bayard.	5.88	1977-78	9-11-78	.83

Discharge measurements made at low-flow partial-record stations during water year 1978

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Patuxent River basin--Continued				
01594490	Northeast Branch at Kolbes Corner, MD	Lat 38°54'03", long 76°47'35", Prince Georges County, at bridge on State Highway 556, 0.1 mi north of Kolbes Corner, and 0.5 mi upstream from mouth.	7.74	1977-78	9-11-78	0.88
01594525	Collington Branch at Upper Marlboro, MD	Lat 38°49'16", long 76°44'40", Prince Georges County, at railroad bridge at Upper Marlboro, and 0.1 mi upstream from mouth.	22.9	1964-66, 1975-78	9-11-78	4.2
		Potomac River basin				
01594975	Glade Run at Steyer, MD	Lat 39°18'08", long 79°19'33", Garrett County, on Steyer Gorman Road, 0.1 mi upstream from mouth, and 0.7 mi west of Steyer.	8.86	1977-78	9-19-78	2.3
01596600	Big Run near Swanton, MD	Lat 39°32'45", long 79°08'31", Garrett County, on Big Run Road, 0.3 mi downstream from Monroe Run, and 7.5 mi northeast of Swanton.	13.4	1977-78	9-12-78	1.3
01597100	Middle Fork near Swanton, MD	Lat 39°30'46", long 79°09'17", Garrett County, on Savage River Road, 1.0 mi downstream from Toms Spring Run, and 5.5 mi northeast of Swanton.	10.8	1977-78	9-12-78	.72
01601325	Jennings Run at Corriganville, MD	Lat 39°41'36", long 78°47'17", Allegany County, at bridge on State Highway 36 at Corriganville, and 0.1 mi upstream from mouth.	37.7	1975-78	9-12-78	6.1
01605425	Mill Run at Oldtown, MD	Lat 39°32'26", long 78°36'43", Allegany County, at bridge on county highway, 0.1 mi south of Oldtown, and 0.3 mi upstream from mouth.	10.6	1975-78	9-22-78	2.6
01605475	Seven Springs Run at Oldtown, MD	Lat 39°32'29", long 78°36'28", Allegany County, at bridge on county highway at Oldtown, and 1.4 mi downstream from mouth of Trading Run.	9.16	1975-78	9-22-78	3.7
01608950	Murley Branch near Flintstone, MD	Lat 39°41'37", long 78°34'07", Allegany County, on Town Creek Road, 0.7 mi upstream from mouth, and 1.1 mi south of Flintstone.	11.9	1977-78	9-21-78	10
01608975	Maple Run near Town Creek, MD	Lat 39°36'46", long 78°31'52", Allegany County, on Jacobs Road, 2.7 mi upstream from mouth, and 6.0 mi north of Town Creek.	7.10	1977-78	9-21-78	.32
01610060	Fifteen Mile Creek near Piney Grove, MD	Lat 39°41'13", long 78°27'17", Allegany County, at bridge on light-duty road, 1.1 mi upstream from Piclic Run, and 4.3 mi southwest of Piney Grove.	20.2	1975-78	9-21-78	1.2
01610065	Deep Run near Little Orleans, MD	Lat 39°39'12", long 78°27'09", Allegany County, at bridge on light-duty road, 0.5 mi upstream from mouth, and 3.9 mi northwest of Little Orleans.	6.26	1975-78	9-21-78	.44
01610075	Fifteen Mile Creek at Little Orleans, MD	Lat 39°37'41", long 78°23'22", Allegany County, at bridge on light-duty road at Little Orleans, and 1.5 mi downstream from Flat Run.	61.6	1975-78	9-21-78	6.2
*01610150	Bear Creek at Forest Park, MD	Lat 39°42'07", long 78°19'02", Washington County, at upstream side of culvert on U.S. Highway 40, 0.2 mi upstream from mouth, and 0.9 mi west of Forest Park.	10.4	1975-78	9-21-78	.43
*01613150	Ditch Run near Hancock, MD	Lat 39°41'30", long 78°07'57", Washington County, at upstream side of culvert on U.S. Highway 40, 0.3 mi upstream from mouth, and 2.7 mi east of Hancock.	4.80	1975-78	9-21-78	.52

* Also a crest-stage partial-record station.

Discharge measurements made at low-flow partial-record stations during water year 1978

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Potomac River basin--Continued				
01614525	Rockdale Run at Fairview, MD	Lat 39°42'07", long 77°50'45", Washington County, at bridge on Rockdale Road, 0.7 mi south of Fairview, and 1.7 mi upstream from mouth.	9.67	1976-78	9-26-78	3.6
01614575	Rush Run near Huyett, MD	Lat 39°40'23", long 77°47'37", Washington County, at bridge on State Highway 63, 1.5 mi north of Huyett, and 1.9 mi upstream from mouth.	5.20	1976-78	9-26-78	3.1
01614625	Meadow Brook at Conococheague, MD	Lat 39°38'55", long 77°51'19", Washington County, at bridge on Ridge Road, 0.7 mi southwest of Conococheague, and 2.1 mi upstream from mouth.	6.77	1976-78	9-26-78	1.3
01614675	Conococheague Creek tributary near Huyett, MD	Lat 39°37'39", long 77°48'43", Washington County, at bridge on light-duty road, 0.4 mi upstream from mouth, and 1.9 mi south of Huyett.	7.94	1977-78	9-26-78	1.5
01617600	Downey Branch near Downsville, MD	Lat 39°32'19", long 77°49'11", Washington County, at bridge on Dellinger Road, 0.6 mi upstream from mouth, and 1.1 mi southwest of Downsville.	3.00	1976-78	9-26-78	1.8
01617780	St. James Run at Spielman, MD	Lat 39°33'03", long 77°45'52", Washington County, at bridge on Jordon Road, 0.9 mi north of Spielman, and 1.0 mi upstream from Marsh Run.	7.14	1977-78	9-26-78	2.5
01619050	Little Antietam Creek at Leitersburg, MD	Lat 39°40'57", long 77°37'44", Washington County, at bridge on State Highway 62, 0.4 mi upstream from mouth, and 0.8 mi southwest of Leitersburg.	24.5	1976-78	9-26-78	9.4
01619145	West Branch at Paramount, MD	Lat 39°41'25", long 77°41'25", Washington County, at bridge on Marsh Pike, 0.3 mi upstream from mouth, and 0.6 mi north of Paramount.	5.07	1977-78	9-26-78	2.2
01619150	Marsh Run at Fiddlesburg, MD	Lat 39°39'29", long 77°41'16", Washington County, at bridge on Old Forge Road at Fiddlesburg, 0.5 mi east of Hagerstown city limits, and 0.6 mi above mouth.	a31	1965-74, 1976-78	9-26-78	5.4
01619275	Landis Spring Branch near Benevola, MD	Lat 39°34'17", long 77°41'23", Washington County, at bridge on Alternate U.S. Highway 40, 100 ft upstream from mouth, and 1.9 mi northwest of Benevola.	6.60	1976-78	9-18-78	2.1
01619325	Beaver Creek at Benevola, MD	Lat 39°33'04", long 77°40'55", Washington County, at bridge on light-duty road at Benevola, and 0.4 mi upstream from Little Beaver Creek.	22.9	1975-78	9-18-78	17
01619350	Little Beaver Creek at Benevola, MD	Lat 39°32'48", long 77°40'39", Washington County, at bridge on U.S. Highway 40 (Alternate) at Benevola, and 0.2 mi upstream from Beaver Creek.	8.70	1975-78	9-18-78	4.6
01619480	Little Antietam Creek at Keedysville, MD	Lat 39°29'10", long 77°42'05", Washington County, at bridge on Koffman Lane at Keddysville, and 1.2 mi upstream from mouth.	a24	1964-67, 1976-78	9-18-78	8.7
01619525	Sharmans Branch near Antietam, MD	Lat 39°25'42", long 77"43'26", Washington County, at bridge on Mills Road, 0.7 mi upstream from mouth, and 1.3 mi northeast of Antietam.	4.62	1977-78	9-18-78	.39
01636730	Israel Creek at Weverton, MD	Lat 39°19'45", long 77°41'03", Washington County, at bridge on light-duty road at Weverton, and 0.1 mi upstream from mouth.	13.2	1975-78	9-21-78	2.0

a Approximately.

Discharge measurements made at low-flow partial-record stations during water year 1978

Station No.	Station name	Location	Drainage area (mi²)	Period of record	Measurements	
					Date	Discharge (ft³/s)
		Potomac River basin--Continued				
01636850	Little Catoctin Creek near Brunswick, MD	Lat 39°19'25", long 77°35'35", Frederick County, at bridge on State Highway 464, 1.4 mi northeast of Brunswick, and 2.4 mi upstream from mouth.	8.64	1977-78	9-21-78	.98
01636975	Middle Creek at Ellerton, MD	Lat 39°31'33", long 77°32'15", Frederick County, at bridge on Crow Rock Road, 0.4 mi east of Ellerton, and 0.4 mi upstream from West Branch.	22.7	1977-78	9-21-78	2.8
01638600	Tuscarora Creek at Tuscarora, MD	Lat 39°15'06", long 77°28'49", Frederick County, at bridge on light-duty road, 0.7 mi southwest of Tuscarora, and 0.8 mi upstream from mouth.	20.3	1975-78	9-18-78	6.4
01639325	Friends Creek near Emmitsburg, MD	Lat 39°43'03", long 77°23'35", Frederick County, at concrete ford on Hornets Nest Road, 2.1 mi upstream from mouth, and 3.5 mi northwest of Emmitsburg.	12.2	1977-78	9-21-78	.93
01639420	Deep Run at Union Mills, MD	Lat 39°40'08", long 77°00'41", Carroll County, at bridge on light-duty road, 0.1 mi upstream from mouth, and 0.7 mi east of Union Mills.	5.46	1975-78	9-11-78	1.0
01639440	Silver Run near Silver Run, MD	Lat 39°40'38", long 77°05'37", Carroll County, at bridge on light-duty road, 1.0 mi upstream from mouth, and 2.6 mi west of Silver Run.	8.77	1975-78	9-11-78	1.9
01639465	Bear Branch near Mayberry, MD	Lat 39°38'07", long 77°07'41", Carroll County, at bridge on State Highway 32, 0.8 mi upstream from mouth, and 1.6 mi west of Mayberry.	13.9	1975-78	9-11-78	3.8
01640160	Beaver Dam Creek near Union Bridge, MD	Lat 39°34'11", long 77°12'53", Frederick County, at bridge on Good Intent Road, 0.4 mi upstream from mouth, and 1.9 mi west of Union Bridge.	7.04	1977-78	9-21-78	1.8
01640600	Owens Creek near Thurmont, MD	Lat 39°38'26", long 77°23'40", Frederick County, at bridge on county highway, 0.8 mi upstream from Little Owens Creek, and 1.2 mi northwest of Thurmont.	14.4	1975-78	9-21-78	2.7
01640650	Little Owens Creek near Thurmont, MD	Lat 39°38'58", long 77°23'41", Frederick County, at bridge on light-duty road, 1.0 mi upstream from mouth, and 2.0 mi northeast of Thurmont.	6.16	1975-78	9-21-78	1.1
01640720	Beaver Branch at Rocky Ridge, MD	Lat 39°36'20", long 77°19'50", Frederick County, at bridge on State Highway 77, 0.6 mi west of Rocky Ridge, and 0.8 mi upstream from mouth.	6.53	1977-78	9-21-78	.02
01641900	Tuscarora Creek near Frederick, MD	Lat 39°27'52", long 77°24'11", Frederick County, 0.1 mi upstream from U.S. Highway 15 bridge, 1.8 mi upstream from mouth, and 2.0 mi north of Frederick.	16.5	1975-78	9-21-78	3.4
01642050	Israel Creek near Walkersville, MD	Lat 39°28'27", long 77°20'26", Frederick County, at bridge on Crum Road, 1.1 mi southeast of Walkersville, and 2.8 mi upstream from mouth.	a29	1964-66, 1975-78	9-21-78	5.0
01642450	Bens Branch near New Market, MD	Lat 39°24'58", long 77°16'45", Frederick County, at bridge on light-duty road, 1.1 mi upstream from mouth, and 2.3 mi north of New Market.	11.8	1975-78	9-21-78	3.3
01643125	Ballenger Creek near Lime Kiln, MD	Lat 39°21'52", long 77°25'01", Frederick County, at bridge on State Highway 85, 0.5 mi upstream from mouth, and 1.2 mi northeast of Lime Kiln.	20.2	1977-78	9-21-78	7.4

a Approximately.

Discharge measurements made at low-flow partial-record stations during water year 1978

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Potomac River basin--Continued				
01643400	Little Bennett Creek at Hyattstown, MD	Lat 39°16'46", long 77°18'54", Montgomery County, at bridge on State Highway 355 at Hyattstown, and 0.7 mi downstream from Soper Branch.	12.8	1968-69, 1975-78	9-18-78	4.5
01643615	Broad Run at Elmer, MD	Lat 39°07'22", long 77°28'52", Montgomery County, at bridge on River Road, 0.5 mi upstream from mouth, and 1.2 mi south of Elmer.	14.0	1975-78	9-18-78	1.8
01644425	Bucklodge Branch near Dawsonville, MD	Lat 39°09'11", long 77°20'30", Montgomery County, at bridge on light-duty road, 0.7 mi upstream from mouth, and 1.7 mi north of Dawsonville.	8.47	1975-78	9-18-78	2.5
01645050	Dry Seneca Creek near Seneca, MD	Lat 39°05'38", long 77°20'15", Montgomery County, at bridge on Montevideo Road, 0.4 mi upstream from mouth, and 1.1 mi northwest of Seneca.	19.2	1975-78	9-18-78	1.8
01647620 (revised)	Rock Creek at Redland, MD	Lat 39°08'14", long 77°07'46", Montgomery County, at bridge on State Highway 115, 0.6 mi upstream from Mill Creek and 1.0 mi souteast of Redland.	7.45	1977-78	9-21-78	2.6
01653625	Tinkers Creek at Piscataway, MD	Lat 38°42'50", long 76°58'16", Prince Georges County, at bridge on Gallahan Road, 0.5 mi upstream from mouth, and 0.8 mi north of Piscataway.	15.9	1975-78	9-12-78	3.7
01660740	Port Tobacco Creek near Marshalls Corner, MD	Lat 38°32'34", long 77°01'04", Charles County, at bridge on State Highway 225, 0.25 mi downstream from Jennie Run, and 1.4 mi southeast of Marshalls Corner.	15.8	1977-78	9-12-78	1.8
01660905	Zekiah Swamp Run near Malcom, MD	Lat 38°36'52", long 76°49'59", Charles County, at bridge on State Highway 382, 0.4 mi downstream from Wolf Den Branch, and 2.4 mi west of Malcom.	12.1	1975-78	9-12-78	2.4
*01660930	Clark Run near Bel Alton, MD	Lat 38°28'21", long 76°57'22", Charles County, at bridge on Newtown Road, 1.5 mi northeast of Bel Alton, and 1.8 mi upstream from mouth.	10.4	1975-78	9-12-78	.33
		Monongahela River basin				
03075350	Cherry Creek near Crellin, MD	Lat 39°22'06", long 79°27'16", Garrett County, at bridge on Underwood Road, 0.4 mi upstream from mouth, and 1.5 mi south of Crellin.	16.7	1977-78	9-19-78	7.4
03075475	Little Youghiogheny River at Loch Lynn Heights, MD	Lat 39°23'54", long 79°22'11", Garrett County, at bridge on State Highway 41, 0.4 mi northeast of Loch Lynn Heights, and 3.2 mi downstream from Block Run.	13.2	1975-78	9-19-78	4.8
03075900	Cherry Creek near McHenry, MD	Lat 39°32'20", long 79°18'55", Garrett County, 200 ft east of Rock Lodge Road, 200 ft upstream from mouth, and 2.4 mi southeast of McHenry.	12.3	1973, 1975-78	9-19-78	7.7
03076590	South Branch Bear Creek near Friendsville, MD	Lat 39°39'11", long 79°23'06", Garrett County, at bridge on light-duty road, 100 ft upstream from mouth, and 1.2 mi southeast of Friendsville.	16.8	1975-78	9-19-78	7.7
03077925	North Branch Casselman River near Grantsville, MD	Lat 39°40'08", long 79°10'43", Garrett County, at bridge on State Highway 495, 250 ft upstream from confluence with South Branch Casselman River, and 2.3 mi southwest of Grantsville.	24.4	1975-78	9-12-78	8.8
03077950	South Branch Casselman River near Grantsville, MD	Lat 39°40'05", long 79°10'42", Garrett County, 250 ft upstream from confluence with North Branch Casselman River, 2.2 mi southwest of Grantsville.	20.8	1975-78	9-12-78	6.3

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain, but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 1978

					Annual maximum		
Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Date	Gage height (ft)	Discharge (ft^3/s)
		Wye River basin					
01492500	Sallie Harris Creek near Carmichael, MD	Lat 38°57'55", long 76°06'30", Queen Annes County, at upstream side of bridge on U.S. Highway 50, 2.0 mi northeast of Carmichael, and 2.4 mi upstream from mouth.	8.09	1952-56‡, 1957-78	7-25-78	6.46	784
		Chester River basin					
01494020	Browns Branch tributary near Church Hill, MD	Lat 39°10'05", long 75°58'41", Queen Annes County, at upstream side of culvert on John Powell Road, 0.6 mi upstream from mouth, and 1.8 mi north of Church Hill.	a1.7	1971-78b	1-26-78	6.68	98
		Susquehanna River basin					
01577940	Broad Creek tributary at Whiteford, MD	Lat 39°42'14", long 76°21'49", Harford County, at upstream side of culvert on State Highway 165, 0.8 mi upstream from mouth, and 1.0 mi southwest of Whiteford.	.77	1971-78	5-15-78	7.6	210
		Gunpowder River basin					
01582510	Piney Creek near Hereford, MD	Lat 39°34'38", long 76°40'39", Baltimore County, at upstream side of culvert on Highway I-83, 1.1 mi southwest of Hereford, and 5.3 mi upstream from mouth.	a1.5	1962-78	1-26-78	9.2	260
01584500	Little Gunpowder Falls at Laurel Brook, MD	Lat 39°30'18", long 76°25'56", Baltimore County, 750 ft upstream from bridge on Bottom Road, 5 mi southwest of Bel Air, and 10.5 mi upstream from mouth.	36.1	1927-70‡, 1971-78	1-26-78	9.8	8,400
		Patapsco River basin					
01589240	Gwynns Falls at McDonogh, MD	Lat 39°23'28", long 76°45'56", Baltimore County, at bridge on McDonogh Road at McDonogh, and 0.3 mi upstream from Horsehead Branch.	19.3	1958-78	1-26-78	8.0	1,250
		Potomac River basin					
01596005	Savage River near Frostburg, MD	Lat 39°40'56", long 78°57'54", Garrett County, at upstream side of culvert on U.S. Highway 40, 1.9 mi northwest of Frostburg city limits, and about 26 mi upstream from mouth.	a1.5	1971-78	3-14-78	19.9	85
01601000	Wills Creek below Hyndman, PA	Lat 39°48'43", long 78°43'00", Bedford County, 150 ft above county highway bridge, 150 ft downstream from Pennsylvania Railroad bridge, 0.35 mi downstream from Little Wills Creek, and 0.5 mi south of Hyndman.	146	1951-67‡, 1968-78	5-16-78	6.07	3,160

‡ Operated as a continuous-record station.
a Approximately.
b Station discontinued Feb. 28, 1978.

Annual maximum discharge at crest-stage partial-record stations during water year 1978

Station No.	Station name	Location	Drainage area (mi²)	Period of record	Annual maximum Date	Annual maximum Gage height (ft)	Annual maximum Discharge (ft³/s)
		Potomac River Basin--Continued					
01610105	Pratt Hollow tributary at Pratt, MD	Lat 39°41'35", long 78°30'18", Allegany County, at upstream side of culvert on U.S. Highway 40, 0.2 mi northeast of Pratt, and 1.0 mi upstream from Kifer Hollow.	.70	1971-78	8- 4-78	11.6	48
*01610150	Bear Creek at Forest Park, MD	Lat 39°42'07", long 78°19'02", Washington County, at upstream side of culvert on U.S. Highway 40, 0.2 mi upstream from mouth, and 0.9 mi west of Forest Park.	10.4	1965-69, 1971-78	3-15-78	5.6	430
*01613150	Ditch Run near Hancock, MD	Lat 39°41'30", long 78°07'57", Washington County, at upstream side of culvert on U.S. Highway 40, 0.3 mi upstream from mouth, and 2.7 mi east of Hancock.	a4.8	1965-78	8- 4-78	9.9	650
01640000	Little Pipe Creek at Avondale, MD	Lat 39°33'40", long 77°02'38", Carroll County, at private bridge 0.1 mi below Copps Branch, and 0.5 mi northwest of Avondale.	(1977) 8.10 (1978) 8.10	1948-56‡ 1959-64 1967-78	6-28-77 1-26-78	4.32 5.59	373 703
01658000	Mattawoman Creek near Pomonkey, MD	Lat 38°35'45", long 77°03'25", Charles County, at downstream side of bridge on State Highway 227, 1.2 mi southeast of Pomonkey, and 12.6 mi upstream from mouth.	57.7	1949-72‡, 1973-78	1-26-78	6.31	4,300
01660900	Wolf Den Branch near Cedarville, MD	Lat 38°38'29", long 76°49'02", Charles County, at upstream side of culvert on Forest Road, 1.5 mi upstream from mouth, and 1.6 mi southwest of Cedarville.	a2.3	1966-78	1-26-78	6.4	235
01661430	Glebe Branch at Valley Lee, MD	Lat 38°11'40", long 76°31'13", St. Marys County, at upstream side of culvert on private road, 200 ft downstream from culvert on State Highway 244, 0.2 mi upstream from mouth, and 0.3 mi west of Valley Lee.	a.3	1968-78	1-18-78	4.1	21
		Monongahela River basin					
03075600	Toliver Run tributary near Hoyes Run, MD	Lat 39°29'39", long 79°25'14", Garrett County, at upstream side of culvert on Swallow Falls Road, 100 ft upstream from mouth, and 2.4 mi south of Hoyes Run.	.53	1965-78	8- 4-78	5.1	38
03078500	Big Piney Run near Salisbury, PA	Lat 39°43'34", long 79°02'55", Somerset County, 660 ft upstream from Little Piney Run, and 2.5 mi southeast of Salisbury.	24.5	1932-70‡, 1974-78	5-16-78	3.82	679

* Also a low-flow partial-record station.
a Approximately.
‡ Operated as a continuous-record station.

Annual maximum discharge at crest-stage partial-record stations during water year 1978

Tidal crest-stage partial-record stations

The following table contains annual maximum stages for tidal crest-stage stations. The information is obtained from a crest-stage gage or a water-stage recorder located at each site. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. All stages are elevations above National Geodetic Vertical Datum of 1929. Only the maximum stage is given. Information on some other high stages may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum stage at tidal crest-stage partial-record stations during water year 1978

				Annual maximum	
Station No.	Station name	Location	Period of Record	Date	Elevation, in feet NGVD
		Smyrna River basin			
01483335	Duck Creek at Smyrna, DE	Lat 39°18'31", long 75°36'34", Kent County, at bridge on U.S. Highway 13, at north edge of Smyrna, 2 mi north of intersection of State Highway 300 and U.S. Highway 13 on downstream right wingwall of bridge.	1966-78	12-19-77	4.41
		Murderkill River basin			
01484085	Murderkill River at Bowers, DE	Lat 39°03'30", long 75°23'51", Kent County, at Faulkner's Landing in Bowers, on left bank 10 ft southeast of southeast corner of restaurant on Faulkner's Pier.	1966-78	10-14-77	7.18
		Cedar Creek basin			
01484235	Cedar Creek near Slaughter Beach, DE	Lat 38°56'06", long 75°19'26", Sussex County, at bridge No. S-164 on State Highway 36, 1.8 mi northwest of Slaughter Beach.	1966-78	10-14-77	4.96
		Indian River basin			
01484595	Indian River at Oak Orchard, DE	Lat 38°35'45", long 75°10'24", Sussex County, at Hanes Landing 2.0 mi southeast of intersection of State Highways 24 and 5, at Oak Orchard.	1966-78	10-14-77	4.76

Measurements at miscellaneous sites

Measurements of streamflow at points other than gaging stations or partial-record stations are given in the following table. All measurements in this table were made during periods of base flow, except as otherwise noted.

Discharge measurements made at miscellaneous sites during water year 1978

Stream	Tributary to	Location	Drainage area (mi²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft³/s)
		Gunpowder River basin				
01581955 Gunpowder Falls	Gunpowder River	Lat 39°36'32", long 76°38'08", Baltimore County, at bridge on Big Falls Road, 2.0 mi northeast of Hereford, Md.	91.6	1975-77	11-15-77 4-27-78 6-14-78 9- 5-78	6.8 130 90 53
01583985 Gunpowder Falls	Gunpowder River	Lat 39°25'31", long 76°31'47", Baltimore County, at bridge on Cromwell Bridge Road, 0.5 mi northeast of Loch Raven, Md.	308	1975-77	11-22-77 2-22-78 5- 3-78 9- 5-78	3.0 211 194 38
		Potomac River basin				
01598000 Savage River	North Branch Potomac River	Lat 39°29'00", long 79°04'24", Garrett County, 0.4 mi upstream from mouth, and 0.5 mi north of Bloomington, Md.	115	1905-6‡, 1924-27‡, 1929-50‡, 1975-77	12-16-77 9-14-78	620 124
Potomac Blue Spring	North Branch Potomac	Lat 39°34'26", long 78°43'50", Allegany County, 200 ft below abandoned C&O Canal lock, 1.1 mi northwest of Spring Gap, Md.	--	1958-77	9-22-78	12
Murley Branch	Murley Branch	Lat 39°39'38", long 78°37'08", Allegany County, below dam at springhouse of farm on Williams Road, 4.0 mi southwest of Flintstone, Md.	--	1958-77	9-22-78	1.9
Hoffman Drainage Tunnel	Braddock Run	Lat 39°38'18", long 78°53'38", Allegany County, upstream from State Highway 55, 0.5 mi southwest of Clarysville, and 2.1 mi southeast of Frostburg, Md.	--	1944, 1958-59, 1964, 1965, 1967-77	9-22-78	18
01601490 Braddock Run	Wills Creek	Lat 39°40'12", long 78°47'37", Allegany County, 0.2 mi upstream from mouth, and 2.0 mi northwest of Cumberland, Md.	17.5	1975-77	10-25-77 9-14-78	10 28
01645080 Seneca Creek	Potomac River	Lat 39°05'28", long 77°19'47", Montgomery County, 50 ft upstream from Hooker Branch, 1.0 mi northeast of Seneca, Md., and 1.9 mi upstream from mouth.	128	1975-77	11-25-77 12-15-77 3- 2-78 9- 7-78	79 132 93 45

‡ Operated as a continuous-record station.

Water-quality partial-record stations are particular sites where chemical-quality, biological, and/or sediment data are collected systematically over a period of years for use in hydrologic analyses. The data are collected usually less than quarterly.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DELAWARE RIVER BASIN

01477875 - CHRISTINA RIVER AT HUNTING HILLS, NEWARK, DE

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERAT RE (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
OCT												
19...	1445	4.0	110	7.5	16.0	10.5	11.7	44	19	11	4.0	7.3

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	ALKALINITY (MG/L AS CACO3)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)
OCT												
19...	3.4	30	25	9.4	.0	16	95	81	1.8	.01	.01	.16

DATE	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	CORALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	NICKEL, DISSOLVED (UG/L AS NI)	ZINC, DISSOLVED (UG/L AS ZN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
OCT												
19...	.03	.02	0	0	1	1	80	1	40	0	130	.00

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA
WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DELAWARE RIVER BASIN--CONTINUED

01477875 CHRISTINA RIVER AT HUNTING HILLS, NEWARK, DE
BENTHIC INVERTEBRATE ANALYSES, OCTOBER 1977 TO OCTOBER 1977

DATE	OCT 19,77
TIME	1445
TOTAL COUNT	454
DIVERSITY: PHYLUM	1.0
.CLASS	1.0
..ORDER	1.4
...FAMILY	1.5
....GENUS	1.9
....GENUS-INSECTA	1.9

ORGANISM	COUNT
ARTHROPODA (ARTHROPODS)	
.INSECTA	
..COLEOPTERA	
...PSEPHENIDAE	
....PSEPHENUS	3
..DIPTERA	
...CHIRONOMIDAE	
....CRICOTOPUS	2
...EMPIDIDAE	
....HEMERODROMIA	2
...TIPULIDAE	
....ANTOCHA	8
..EPHEMEROPTERA	
...BAETIDAE	
....BAETIS	2
...CAENIDAE	
....CAENIS	1
..TRICHOPTERA	
...GLOSSOSOMATIDAE	
....GLOSSOSOMA	4
...HYDROPSYCHIDAE	
....CHEUMATOPSYCHE	44
....HYDROPSYCHE	109
....POTAMYIA	14
...POLYCENTROPODIDAE	
....NEURECLIPSIS	1
MOLLUSCA (MOLLUSCS)	
.GASTROPODA	
..BASOMMATOPHORA	
...ANCYLIDAE	
....FERRISSIA	13
..MESOGASTROPODA	
...VIVIPARIDAE	
....CAMPELOMA	251

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DELAWARE RIVER BASIN--CONTINUED

01477960 - CHRISTINA RIVER AT ROLLING GREEN, NEWARK, DE

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
OCT												
20...	0905	5.1	148	7.5	12.5	8.5	10.4	55	27	14	4.8	12

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	ALKALINITY (MG/L AS CACO3)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)
OCT												
20...	3.9	34	28	19	.1	15	125	104	1.4	.01	.01	.21

DATE	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	NICKEL, DISSOLVED (UG/L AS NI)	ZINC, DISSOLVED (UG/L AS ZN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
OCT												
20...	.13	.11	0	1	3	4	430	0	60	3	100	.10

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA
WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DELAWARE RIVER BASIN--CONTINUED

01477960 CHRISTINA RIVER AT ROLLING GREEN, NEWARK, DE
BENTHIC INVERTEBRATE ANALYSES, OCTOBER 1977 TO OCTOBER 1977

DATE	OCT 20,77
TIME	0905
TOTAL COUNT	443
DIVERSITY: PHYLUM	0.4
.CLASS	0.4
..ORDER	0.8
...FAMILY	1.1
....GENUS	1.5
....GENUS-INSECTA	1.2

ORGANISM	COUNT
ANNELIDA	
.OLIGOCHAETA	
..UNKNOWN ORDER	
...UNKNOWN FAMILY	
....UNKNOWN GENUS #5	13
ARTHROPODA (ARTHROPODS)	
.INSECTA	
..DIPTERA	
...CHIRONOMIDAE	
....ORTHOCLADIUS	1
....RHEOTANYTARSUS	1
...TIPULIDAE	
....ANTOCHA	7
..EPHEMEROPTERA	
...HEPTAGENIIDAE	
....STENONEMA	16
...SIPHLONURIDAE	
....SIPHLONURUS	8
..TRICHOPTERA	
...HYDROPSYCHIDAE	
....CHEUMATOPSYCHE	38
....HYDROPSYCHE	327
...HYDROPTILIDAE	
....LEUCOTRICHIA	20
MOLLUSCA (MOLLUSCS)	
.GASTROPODA	
..BASOMMATOPHORA	
...ANCYLIDAE	
....FERRISSIA	12

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DELAWARE RIVER BASIN--CONTINUED

01478050 - CHRISTINA RIVER AT CHRISTIANA, DE.

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)
NOV 02...	4.6	141	7.6	16.0	12.0	9.4
DEC 12...	7.1	120	7.3	-1.0	1.5	7.0
MAR 08...	14	215	7.9	--	--	10.1
APR 11...	29	125	7.0	11.0	12.5	--
JUN 06...	22	144	6.7	16.5	18.5	7.3
JUL 20...	6.7	--	6.0	23.5	24.0	7.2

01478700 - WHITE CLAY CREEK BELOW NEWARK, DE

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 19...	1045	38	239	7.7	14.0	8.5	11.1	93	34	23	8.7	8.5

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY (MG/L AS CACO3)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)
OCT 19...	8.4	72	59	17	.1	14	188	148	2.4	.03	.17	.71

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	NICKEL, DIS-SOLVED (UG/L AS NI)	ZINC, DIS-SOLVED (UG/L AS ZN)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT 19...	.14	.08	0	0	0	4	150	10	100	0	1400	.10

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA
WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DELAWARE RIVER BASIN--CONTINUED

01478700-WHITE CLAY CREEK BELOW NEWARK, DE

BENTHIC INVERTEBRATE ANALYSES, OCTOBER 1977 TO OCTOBER 1977

DATE	OCT 19,77
TIME	1045
TOTAL COUNT	4
DIVERSITY: PHYLUM	0.0
.CLASS	0.0
..ORDER	0.0
...FAMILY	0.0
....GENUS	0.0
....GENUS-INSECTA	0.0

ORGANISM	COUNT
ARTHROPODA (ARTHROPODS)	
.INSECTA	
..DIPTERA	
...CHIRONOMIDAE	
....ORTHOCLADIUS	4

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DELAWARE RIVER BASIN--CONTINUED

01478880 - TRIB. TO WHITE CLAY CR. NR. NEWARK, DEL.

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
MAR 30...	0830	3.6	241	6.8	7.0	6.5	40	12.6	75	53
SEP 11...	1200	1.1	240	7.7	23.5	22.0	20	8.2	77	47

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
MAR 30...	17	8.0	14	3.1	27	22	47	23	.1
SEP 11...	17	8.4	12	3.4	37	30	40	20	.1

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)
MAR 30...	10	177	136	1.9	.52	2700	580	300	300
SEP 11...	9.3	204	129	1.9	.02	850	180	130	130

01479955 - RED CLAY CREEK AT ASHLAND, DE

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
OCT 18...	0930	24	291	7.3	9.0	7.0	7.0	110	53	27	10	11

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	ALKALINITY (MG/L AS CACO3)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)
OCT 18...	10	68	56	21	.1	15	211	171	3.3	.06	.33	1.1

DATE	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	NICKEL, DISSOLVED (UG/L AS NI)	ZINC, DISSOLVED (UG/L AS ZN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
OCT 18...	.44	.30	0	3	1	8	110	0	70	1	540	.10

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA
WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DELAWARE RIVER BASIN--CONTINUED

01479955 RED CLAY CREEK AT ASHLAND, DE
BENTHIC INVERTEBRATE ANALYSES, OCTOBER 1977 TO OCTOBER 1977

DATE	OCT 16,77
TIME	0930
TOTAL COUNT	446
DIVERSITY: PHYLUM	0.1
.CLASS	0.1
..ORDER	0.1
...FAMILY	0.1
....GENUS	0.1
....GENUS-INSECTA	0.0

ORGANISM	COUNT
ANNELIDA	
.OLIGOCHAETA	
..UNKNOWN ORDER	
...UNKNOWN FAMILY	
....UNKNOWN GENUS #5	439
ARTHROPODA (ARTHROPODS)	
.INSECTA	
..DIPTERA	
...CHIRONOMIDAE	
....CARDIOCLADIUS	1
MOLLUSCA (MOLLUSCS)	
.GASTROPODA	
..BASOMMATOPHORA	
...PHYSIDAE	
....PHYSA	6

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DELAWARE RIVER BASIN--CONTINUED

01480019 - RED CLAY CREEK AT STANTON, DE

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
OCT												
18...	1230	38	252	7.7	16.5	8.0	11.2	92	43	23	8.5	12

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	ALKALINITY (MG/L AS CACO3)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)
OCT												
18...	8.0	60	49	18	.1	14	174	148	2.7	.04	.14	.84

DATE	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	NICKEL, DISSOLVED (UG/L AS NI)	ZINC, DISSOLVED (UG/L AS ZN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
OCT												
18...	.29	.20	0	1	2	8	120	12	60	0	190	.10

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA
WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DELAWARE RIVER BASIN--CONTINUED

01480019 RED CLAY CREEK AT STANTON, DE
BENTHIC INVERTEBRATE ANALYSES, OCTOBER 1977 TO OCTOBER 1977

DATE	OCT 18,77
TIME	1230
TOTAL COUNT	26
DIVERSITY: PHYLUM	0.9
.CLASS	0.9
..ORDER	1.1
...FAMILY	1.4
....GENUS	1.5
....GENUS-INSECTA	1.7

ORGANISM	COUNT
ARTHROPODA (ARTHROPODS)	
.INSECTA	
..COLEOPTERA	
...PSEPHENIDAE	
....PSEPHENUS	1
..DIPTERA	
...CHIRONOMIDAE	
....POLYPEDILUM	1
....RHEOTANYTARSUS	2
...EMPIDIDAE	
....HEMERODROMIA	5
MOLLUSCA (MOLLUSCS)	
.GASTROPODA	
..BASOMMATOPHORA	
...ANCYLIDAE	
....FERRISSIA	17

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DELAWARE RIVER BASIN--CONTINUED

01481280 - BRANDYWINE CREEK AT SMITH BRIDGE, DE

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT												
21...	1230	230	215	7.8	17.0	9.0	11.4	84	34	21	7.7	11

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY (MG/L AS CACO3)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)
OCT												
21...	3.6	61	50	17	.1	12	159	128	2.2	.03	.02	.25

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	NICKEL, DIS-SOLVED (UG/L AS NI)	ZINC, DIS-SOLVED (UG/L AS ZN)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT												
21...	.21	.16	0	1	1	4	300	0	60	2	40	.10

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA
WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DELAWARE RIVER BASIN--CONTINUED

01481280 BRANDYWINE CREEK AT SMITH BRIDGE, DE
BENTHIC INVERTEBRATE ANALYSES, OCTOBER 1977 TO OCTOBER 1977

DATE	OCT 21,77
TIME	1230
TOTAL COUNT	330
DIVERSITY: PHYLUM	0.5
.CLASS	0.5
..ORDER	0.8
...FAMILY	0.9
....GENUS	1.9
....GENUS-INSECTA	1.5

ORGANISM	COUNT
ARTHROPODA (ARTHROPODS)	
.INSECTA	
..COLEOPTERA	
...ELMIDAE	
....OULIMNIUS	2
....STENELMIS	1
..DIPTERA	
...CHIRONOMIDAE	
....CARDIOCLADIUS	3
....RHEOTANYTARSUS	2
..EPHEMEROPTERA	
...HEPTAGENIIDAE	
....STENONEMA	4
..ODONATA	
...COENAGRIIDAE	
....ARGIA	1
..TRICHOPTERA	
...HYDROPSYCHIDAE	
....CHEUMATOPSYCHE	160
....HYDROPSYCHE	121
....POTAMYIA	6
...HYDROPTILIDAE	
....LEUCOTRICHIA	3
...POLYCENTROPODIDAE	
....NEURECLIPSIS	1
MOLLUSCA (MOLLUSCS)	
.GASTROPODA	
..BASOMMATOPHORA	
...ANCYLIDAE	
....FERRISSIA	17
PLATYHELMINTHES (FLATWORMS)	
.TURBELLARIA	
..UNKNOWN ORDER	
...UNKNOWN FAMILY	
....UNKNOWN GENUS #1	9

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DELAWARE RIVER BASIN--CONTINUED

01481490 - BRANDYWINE CR. AT HAGLEY MUSEUM, WILMINGTON, DE

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
OCT 20...	1505	260	208	7.9	15.5	9.5	11.5	87	38	22	7.7	10

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	ALKALINITY (MG/L AS CACO3)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)
OCT 20...	3.7	59	48	16	.1	12	146	125	2.0	.02	.11	.51

DATE	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	NICKEL, DISSOLVED (UG/L AS NI)	ZINC, DISSOLVED (UG/L AS ZN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
OCT 20...	.21	.15	0	0	1	4	40	0	60	4	80	.10

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA
WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DELAWARE RIVER BASIN--CONTINUED

01481490 BRANDYWINE CR. AT HAGLEY MUSEUM, WILMINGTON, DE
BENTHIC INVERTEBRATE ANALYSES, OCTOBER 1977 TO OCTOBER 1977

DATE	OCT 20,77
TIME	1505
TOTAL COUNT	271
DIVERSITY: PHYLUM	0.4
.CLASS	0.4
..ORDER	0.6
...FAMILY	0.6
....GENUS	0.6
....GENUS-INSECTA	2.3

ORGANISM	COUNT
ANNELIDA	
.HIRUDINEA	
..UNKNOWN ORDER	
...UNKNOWN FAMILY	
....UNKNOWN GENUS #3	1
.OLIGOCHAETA	
..UNKNOWN ORDER	
...UNKNOWN FAMILY	
....UNKNOWN GENUS #5	1
ARTHROPODA (ARTHROPODS)	
.INSECTA	
..COLEOPTERA	
...PSEPHENIDAE	
....ECTOPRIA	1
..DIPTERA	
...CHIRONOMIDAE	
....CARDIOCLADIUS	4
....RHEOTANYTARSUS	1
..ODONATA	
...COENAGRIIDAE	
....ARGIA	1
..TRICHOPTERA	
...HYDROPSYCHIDAE	
....HYDROPSYCHE	3
...HYDROPTILIDAE	
....LEUCOTRICHIA	1
MOLLUSCA (MOLLUSCS)	
.GASTROPODA	
..BASOMMATOPHORA	
...ANCYLIDAE	
....FERRISSIA	1
...PHYSIDAE	
....PHYSA	1
..MESOGASTROPODA	
...VIVIPARIDAE	
....CAMPELOMA	251
PLATYHELMINTHES (FLATWORMS)	
.TURBELLARIA	
..TRICLADIDA	
...UNKNOWN FAMILY	
....UNKNOWN GENUS	5

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DELAWARE RIVER BASIN--CONTINUED

01481550 - BRANDYWINE CR. BELOW ALAPOCAS RUN AT WILMINGTON, DE

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
OCT												
20...	1240	240	218	8.1	15.0	9.0	12.0	78	34	19	7.5	10

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	ALKALINITY (MG/L AS CACO3)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)
OCT												
20...	3.6	54	44	15	.1	12	121	117	2.0	.02	.00	.48

DATE	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	NICKEL, DISSOLVED (UG/L AS NI)	ZINC, DISSOLVED (UG/L AS ZN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
OCT												
20...	.21	.15	0	1	0	4	180	0	50	4	50	.10

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA
WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DELAWARE RIVER BASIN--CONTINUED

01481550 BRANDYWINE CR. BELOW ALAPOCAS RUN AT WILMINGTON, DE
BENTHIC INVERTEBRATE ANALYSES, OCTOBER 1977 TO OCTOBER 1977

DATE	OCT 20,77
TIME	1240
TOTAL COUNT	168
DIVERSITY: PHYLUM	1.4
.CLASS	1.4
..ORDER	1.8
...FAMILY	2.1
....GENUS	2.6
....GENUS-INSECTA	2.0

ORGANISM	COUNT
ARTHROPODA (ARTHROPODS)	
.INSECTA	
..COLEOPTERA	
...PSEPHENIDAE	
....PSEPHENUS	1
..DIPTERA	
...CHIRONOMIDAE	
....CARDIOCLADIUS	5
....RHEOTANYTARSUS	4
...TIPULIDAE	
....ANTOCHA	1
..TRICHOPTERA	
...HYDROPSYCHIDAE	
....CHEUMATOPSYCHF	46
....HYDROPSYCHE	31
...HYDROPTILIDAE	
....LEUCOTRICHIA	8
....ALISOTRICHIA	1
..LEPIDOPTERA	
...PYRALIDIDAE	
....PARARGYACTIS	1
MOLLUSCA (MOLLUSCS)	
.GASTROPODA	
..BASOMMATOPHORA	
...ANCYLIDAE	
....FERRISSIA	3
...PHYSIDAE	
....PHYSA	1
..MESOGASTROPODA	
...VIVIPARIDAE	
....CAMPELOMA	18
PLATYHELMINTHES (FLATWORMS)	
.TURBELLARIA	
..TRICLADIDA	
...UNKNOWN FAMILY	
....UNKNOWN GENUS	48

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DELAWARE RIVER BASIN--CONTINUED

01482310 - DOLL RUN AT RED LION, DEL.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
MAR 30...	1045	1.4	240	6.3	9.0	7.0	20	12.6	49	39
SEP 11...	1500	1.1	175	7.2	26.0	21.0	5	9.9	55	39

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
MAR 30...	10	5.9	6.8	2.1	13	11	26	15	.0
SEP 11...	11	6.7	7.6	2.4	19	16	27	15	.0

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
MAR 30...	10	109	82	3.5	.02	440	70	150	150
SEP 11...	13	144	92	4.1	.00	240	100	100	90

01483170 - TRIB. TO DRAWYER CR. NR. ODESSA, DEL

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
MAR 30...	1410	2.9	170	6.6	9.0	7.5	40	12.0	41	27
SEP 12...	1100	.58	150	7.7	21.5	20.0	35	9.8	51	24

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
MAR 30...	10	3.9	4.7	2.6	17	14	14	11	.1
SEP 12...	12	5.0	5.4	2.9	32	26	14	11	.0

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
MAR 30...	12	98	67	3.5	.05	810	410	90	90
SEP 12...	15	146	82	4.7	.02	790	450	80	80

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DELAWARE RIVER BASIN--CONTINUED

01483348 - MILL CREEK NEAR SMYRNA, DEL.

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
MAR 31...	0930	1.8	133	6.4	14.5	10.0	40	11.4	41	29
SEP 12...	1350	.25	163	7.3	28.5	22.5	10	6.4	56	33

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
MAR 31...	10	4.0	5.2	2.6	15	12	22	12	.1
SEP 12...	15	4.6	6.1	2.5	28	23	25	12	.1

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)
MAR 31...	12	116	76	3.1	.07	710	300	90	80
SEP 12...	18	146	97	2.0	.06	1100	110	50	50

01483500 - LEIPSIC RIVER NEAR CHESWOLD, DEL.

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
MAR 31...	1635	24	157	6.7	17.0	11.5	30	11.5	53	30

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
MAR 31...	14	4.4	7.0	2.5	28	23	27	12	.1

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)
MAR 31...	14	128	95	2.9	.01	1200	190	90	80

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DELAWARE RIVER BASIN--CONTINUED

01483675 - CAHOON BRANCH AT DOVER, DEL.

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
APR 05...	1305	9.5	89	6.3	13.0	10.5	50	9.4	25	12
SEP 18...	0940	1.1	110	7.4	22.5	19.0	40	11.0	25	10

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
APR 05...	5.7	2.5	7.8	2.2	15	12	10	11	.0
SEP 18...	5.6	2.7	8.3	2.1	18	15	6.3	12	.0

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)
APR 05...	11	85	58	1.7	.08	610	200	50	40
SEP 18...	2.0	94	48	2.7	.14	1100	130	60	30

01484050 - PRATT BRANCH NEAR FELTON, DEL.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
MAR 08...	1020	3.5	132	6.6	1.0	5.0	20	10.9	42	31
SEP 13...	1430	1.6	148	7.6	20.0	18.0	10	9.9	39	28

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
MAR 08...	9.2	4.7	7.6	2.0	14	11	20	14	.0
SEP 13...	8.5	4.4	7.5	2.3	14	11	17	13	.0

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)
MAR 08...	16	99	81	4.3	.02	340	110	40	40
SEP 13...	20	108	80	3.5	.01	350	130	40	30

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DELAWARE RIVER BASIN--CONTINUED

01490600 - MEREDITH BRANCH NEAR SANDTOWN, DEL.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
MAR 09...	1425	4.8	101	6.3	7.5	5.5	40	12.6	22	15
SEP 18...	1350	.60	113	7.7	26.0	20.0	40	6.8	29	21

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
MAR 09...	5.0	2.2	6.6	1.5	8	7	17	8.4	.0
SEP 18...	6.6	3.1	6.6	3.5	10	8	15	10	.0

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)
MAR 09...	19	78	64	1.4	.02	740	670	50	50
SEP 18...	20	86	70	2.3	.07	1800	90	60	40

GROUND-WATER LEVELS

DELAWARE

KENT COUNTY

391026075304901. Local number, ID 55-1.
LOCATION.--Lat 39°10'26", long 75°30'49", Hydrologic Unit 02040207, White Oak Road at Dover.
Owner: City of Dover.
AQUIFER.--Piney Point.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 2.5 in (0.06 m), depth 349 ft (106 m), cased to 329 ft (100 m), screened 329 to 349 ft (100 to 106 m).
DATUM.--Altitude of land-surface datum is 20 ft (6.1 m). Measuring point: Top of casing at land-surface datum.
REMARKS.--Water level affected by pumping in the Dover area.
PERIOD OF RECORD.--August 1969 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 67.40 ft (20.54 m) below land-surface datum, May 5, 1970; lowest, 143.0 ft (43.59 m) below land-surface datum, Sept. 6, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	139.1	132.9	128.5	.....	132.4	131.9	131.6	133.0	129.8	132.5	130.1	129.8
10	137.8	132.6	.....	123.1	131.7	132.4	132.2	132.9	130.4	131.2	130.3	129.3
15	137.0	132.5	.....	125.8	131.1	131.9	132.6	132.6	131.3	131.2	131.1	129.0
20	135.6	131.7	.....	127.8	131.4	132.1	131.8	131.0	130.8	130.5	132.9	129.2
25	134.4	130.1	.....	.....	131.1	132.1	132.7	130.4	132.2	129.7	132.9	130.7
EOM	133.5	129.1	125.9	.....	131.2	131.8	132.6	129.3	133.0	129.6	131.8	130.4

WTR YEAR 1978 MAX 123.1 JAN 10, 1978 MIN 141.0 OCT 1, 1977

390935075320001. Local number, JD 14-1.
LOCATION.--Lat 39°09'35", long 75°32'00", Hydrologic Unit 02040207, Division Street at Dover.
Owner: City of Dover.
AQUIFER.--Cheswold.
WELL CHARACTERISTICS.--Drilled former public supply well, diameter 12 in (0.30 m), depth 227 ft (69.2 m) cased to 195 ft (59.4 m), screened 195 to 227 ft (59.4 to 69.2 m).
DATUM.--Altitude of land-surface datum is 35 ft (10.7 m). Measuring point: Top of casing at land-surface datum.
REMARKS.--Water level affected by pumping in the Dover area.
PERIOD OF RECORD.--August 1972 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 91.05 ft (27.75 m) below land-surface datum, Nov. 28, 1976; lowest, 131.4 ft (40.05 m) below land-surface datum, Sept. 2, 1972.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	111.0	118.0	113.9	107.2	100.0	105.1	105.6	104.4	115.3	116.9	119.0	117.5
10	107.8	118.8	115.6	107.7	100.4	104.7	103.0	104.6	116.0	117.2	118.9	117.8
15	114.0	118.9	113.9	103.6	102.2	105.0	105.0	108.2	116.8	117.6	118.9	118.3
20	115.9	115.6	110.2	101.5	101.7	105.0	101.9	110.7	116.9	118.1	116.3	119.2
25	117.0	112.0	108.1	99.21	104.0	104.9	101.7	112.6	117.0	118.4	118.0	119.8
EOM	117.2	113.8	107.0	101.7	104.6	105.4	103.7	113.8	117.4	119.0	118.1	118.3

WTR YEAR 1978 MAX 98.57 JAN 25, 1978 MIN 120.1 SEP 26, 1978

390607075331501. Local number, JD 42-3.
LOCATION.--Lat 39°06'07", long 75°33'15", Hydrologic Unit 02040207, 1 mi (1.6 km) south of Camden.
Owner: Delaware Department of Highways and Transportation.
AQUIFER.--Columbia Deposits.
WELL CHARACTERISTICS.--Bored observation water-table well, diameter 1.25 in (0.03 m), depth 11 ft (3.4 m), well point 8.5 to 11 ft (2.6 to 3.4 m).
DATUM.--Altitude of land-surface datum is about 44 ft (13.4 m). Measuring point: Top of casing at land-surface datum.
REMARKS.--This is a replacement well and is located 2 ft (0.6 m) north of the original well. The measurements published in WSP 1782, for the years 1958-61 for the original well, are doubtful.
PERIOD OF RECORD.--October 1950 to December 1961, August 1971 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.69 ft (0.82 m) below land-surface datum, July 18, 1975; lowest measured, 9.56 ft (2.91 m) below land-surface datum, Oct. 25, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	9.56	DEC 27	7.59	FEB 22	5.41	APR 21	4.44	JUN 21	5.10	AUG 24	5.05
NOV 22	9.05	JAN 24	5.55	MAR 23	4.69	MAY 23	5.00	JUL 24	5.39	SEP 25	6.16

DELAWARE--Continued

KENT COUNTY--Continued

385041075395601. Local number, MC 51-1.
LOCATION.--Lat 38°50'41", long 75°39'56", Hydrologic Unit 02060008, 1.3 mi (2.1 km) northeast of Adamsville.
Owner: Delaware Department of Highways and Transportation.
AQUIFER.--Columbia Deposits.
WELL CHARACTERISTICS.--Bored observation water-table well, diameter 2 in (0.05 m), depth 19 ft (5.8 m), well point 15 to 19 ft (4.6 to 5.8 m).
DATUM.--Altitude of land-surface datum is about 55 ft (16.8 m). Measuring point: Top of casing at land-surface datum.
REMARKS.--This is a replacement well and is located about 60 ft (18.3 m) north of original well.
PERIOD OF RECORD.--September 1958 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.52 ft (1.38 m) below land-surface datum, July 16, 1975; lowest measured, 15.69 ft (4.78 m) below land-surface datum, Nov. 1, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 1	15.69	JAN 31	6.88	APR 13	6.93	JUL 11	11.23				
DEC 7	14.70	MAR 7	10.26	MAY 26	8.81	SEP 1	12.38				

385310075331301. Local number, MD 22-1.
LOCATION.--Lat 38°53'10", long 75°33'13", Hydrologic Unit 02040207, 2.4 mi (3.9 km) west of Williamsville.
Owner: Delaware Department of Highways and Transportation.
AQUIFER.--Columbia Deposits.
WELL CHARACTERISTICS.--Bored observation water-table well, diameter 1 in (0.03 m), depth 17 ft (5.2 m), well point 14 to 17 ft (4.3 to 5.2 m).
DATUM.--Altitude of land-surface datum is about 58 ft (17.7 m). Measuring point: Top of casing at land-surface datum.
PERIOD OF RECORD.--September 1958 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.07 ft (0.33 m) below land-surface datum, July 14, 1975; lowest measured, 11.14 ft (3.40 m) below land-surface datum, Jan. 6, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 2	10.42	JAN 18	1.59	APR 12	2.54	JUL 10	5.05				
DEC 6	6.42	MAR 7	4.11	MAY 24	2.11	AUG 25	6.08				

NEW CASTLE COUNTY

393854075415401. Local number, DB 24-10.
LOCATION.--Lat 39°38'54", long 75°41'54", Hydrologic Unit 02040205, 2 mi (3.2 km) south of Ogletown.
Owner: Delaware Department of Highways and Transportation.
AQUIFER.--Columbia Deposits.
WELL CHARACTERISTICS.--Bored observation water-table well, diameter 1 in (0.03 m), depth 24 ft (7.3 m), well point 21 to 24 ft (6.4 to 7.3 m).
DATUM.--Altitude of land-surface datum is about 77 ft (23.5 m). Measuring point: Top of casing at land-surface datum.
PERIOD OF RECORD.--August 1957 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.88 ft (1.49 m) below land-surface datum, May 12, 1958; lowest measured, 17.43 ft (5.31 m) below land-surface datum, Feb. 10, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 2	15.21	FEB 3	9.03	APR 11	7.08	JUL 17	8.20				
DEC 12	14.41	MAR 8	5.95	JUN 5	7.18	AUG 29	7.39				

DELAWARE--Continued

NEW CASTLE COUNTY--Continued

393755075364802. Local number, DC 34-6.
LOCATION.--Lat 39°37'55", long 75°36'48", Hydrologic Unit 02040205, at Delaware National Guard Rifle Range, New Castle.
Owner: Delaware Geological Survey.
AQUIFER.--Upper Potomac.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in (0.15 m) to 43 ft (13.1 m), 2 in (0.05 m) to 190 ft (57.9 m), depth 190 ft (57.9 m), screened 183 to 188 ft (55.8 to 57.3 m).
REMARKS.--Water level subject to tidal fluctuation.
DATUM.--Altitude of land-surface datum is 28 ft (8.5 m). Measuring point: Top of casing, 2.0 ft (0.61 m) above land-surface datum.
PERIOD OF RECORD.--November 1975 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 39.30 ft (11.98 m) below land-surface datum, Feb. 2, 1976; lowest, 53.35 ft (16.26 m) below land-surface datum, Mar. 7, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	52.14	51.75	50.89	52.70	52.47	52.62	52.08	52.16	51.13	50.75	.....	.....
10	51.50	51.10	51.97	52.63	52.35	52.30	52.47	52.49	52.41	.....	.....	.....
15	52.09	52.02	51.67	52.58	52.92	52.84	53.00	52.31	52.14	.....	.....	.....
20	51.78	51.56	51.42	51.50	52.39	52.88	52.07	52.50	51.60	.....	.....	.....
25	51.57	51.05	51.20	52.01	52.57	52.80	52.98	52.33	52.03	.....	.....	.....
EOM	51.84	51.92	51.89	52.99	52.85	53.24	52.59	52.63	52.08	.....	.....	.....

WTR YEAR 1978 MAX a49.56 MIN 53.35 MAR 7, 1978

a From recorded range-in-stage, occurred between July 6 and Aug. 7, 1978, but may have been higher during period Sept. 8-30, 1978.

391949075410701. Local number, HB 14-1.
LOCATION.--Lat 39°19'49", long 75°41'07", Hydrologic Unit 02040205, at Prices Corners.
Owner: Delaware Department of Highways and Transporation.
AQUIFER.--Columbia Deposits.
WELL CHARACTERISTICS.--Bored observation water-table well, diameter 1 in (0.03 m), depth 19 ft (5.8 m), well point 16 to 19 ft (4.9 to 5.8 m).
DATUM.--Altitude of land-surface datum is about 72 ft (21.9 m). Measuring point: Top of casing at land-surface datum.
PERIOD OF RECORD.--October 1957 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.49 ft (0.45 m) below land-surface datum, Apr. 7, 1958; lowest measured, 11.95 ft (3.64 m) below land-surface datum, Aug. 31, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 8	10.37	FEB 3	5.09	APR 11	3.43	JUL 14	5.13				
DEC 9	9.39	27	6.03	MAY 31	3.32	AUG 25	6.18				

SUSSEX COUNTY

384930075370201. Local number, NC 13-3.
LOCATION.--Lat 38°49'30", long 75°37'02", Hydrologic Unit 02060008, 2.0 mi (3.2 km) northwest of Greenwood.
Owner: University of Delaware.
AQUIFER.--Piney Point.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in (0.15 m), depth 630 ft (192 m), cased to 620 ft (189 m), screened 620 to 630 ft (189 to 192 m).
DATUM.--Land surface datum is 62.5 ft (19.1 m) above mean sea level. Measuring point: Top of casing, 3.0 ft (0.9 m) above land-surface datum.
PERIOD OF RECORD.--December 1970 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 69.70 ft (21.24 m) below land-surface datum, Jan. 1, 1971; lowest, 79.79 ft (24.32 m) below land-surface datum, Sept. 30, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	78.23	78.28	77.97	78.31	78.31	.....	78.63	78.80	78.85	79.16	79.37	79.43
10	78.12	78.02	78.36	78.17	78.17	78.21	78.76	78.83	79.04	79.11	79.24	79.58
15	78.03	78.20	78.10	78.15	78.15	78.44	78.80	78.61	79.15	79.16	79.35	79.57
20	78.09	78.35	78.11	77.91	77.91	78.72	78.80	78.83	79.14	79.33	79.35	79.63
25	78.33	78.03	77.91	78.08	78.08	78.80	78.86	78.77	79.13	79.25	79.37	79.63
EOM	78.32	78.21	78.20	78.20	78.34	78.63	78.83	78.83	79.14	79.24	79.46	79.79

WTR YEAR 1978 MAX 77.67 JAN 26, 1978 MIN 79.79 SEP 30, 1978

DELAWARE--Continued

SUSSEX COUNTY--Continued

384639075353101. Local number, NC 45-1.
LOCATION.--Lat 38°46'39", long 75°35'31", Hydrologic Unit 02060008, 2.0 mi (3.2 km) south of Greenwood.
Owner: P. H. Cannon.
AQUIFER.--Columbia Deposits.
WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1 in (0.03 m), depth 15 ft (4.6 m), screened 14 to 15 ft (4.3 to 4.6 m).
DATUM.--Altitude of land-surface datum is about 43 ft (13.1 m). Measuring point: Top of casing, 1.00 ft (0.30 m) above land-surface datum.
PERIOD OF RECORD.--October 1950 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.67 ft (2.03 m) below land-surface datum, Jan. 30, 1952; lowest measured, 14.48 ft (4.41 m) below land-surface datum, Nov. 18, 1974.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 3	14.42	JAN 19	10.09	APR 17	11.26	JUL 20	13.08				
DEC 6	13.81	MAR 10	12.33	MAY 22	11.33	SEP 1	13.35				

384955075192801. Local number, NG 11-1.
LOCATION.--Lat 38°49'55", long 75°19'28", Hydrologic Unit 02040207, 1.2 mi (1.9 km) east of Jefferson Crossroads.
Owner: Delaware Department of Highways and Transporation.
AQUIFER.--Columbia Deposits.
WELL CHARACTERISTICS.--Bored observation water-table well, diameter 1 in (0.03 m), depth 19 ft (5.8 m), well point 16 to 19 ft (4.9 to 5.8 m).
DATUM.--Altitude of land-surface datum is 24 ft (7.3 m). Measuring point: Top of casing at land-surface datum.
PERIOD OF RECORD.--September 1959 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.43 ft (2.75 m) below land-surface datum, July 17, 1975; lowest measured, 14.64 ft (4.46 m) below land-surface datum, Jan. 7, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 2	14.02	JAN 18	9.25	APR 17	8.63	JUL 10	10.52				
DEC 5	13.33	MAR 8	10.02	MAY 24	9.18	AUG 22	11.03				

383730075213501. Local number, PF 24-2.
LOCATION.--Lat 38°37'30", long 75°21'35", Hydrologic Unit 02060010, 1.5 mi (2.4 km) southwest of Stockley.
Owner: Delaware Department of Highways and Transportation.
AQUIFER.--Columbia Deposits.
WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 4 in (0.10 m), depth 49 ft (14.9 m), cased to 46 ft (14.0 m), screened 46 to 49 ft (14.0 to 14.9 m).
DATUM.--Altitude of land-surface datum is about 50 ft (15.2 m). Measuring point: Top of casing, 3.00 ft (0.91 m) above land-surface datum.
PERIOD OF RECORD.--January 1970 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.14 ft (1.87 m) below land-surface datum, Jan. 21, 1978; lowest, 11.98 ft (3.65 m) below land-surface datum, Sept. 5, 6, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.65	11.43	9.97	7.76	.....	.....	7.41	7.91	8.15	9.55	10.43	10.50
10	11.62	10.80	9.84	7.44	.....	8.43	7.62	.....	8.40	e9.70	10.40	10.62
15	11.57	10.55	9.67	6.86	.....	6.99	7.88	.....	8.65	e9.85	10.15	10.70
20	11.54	10.48	7.45	6.18	.....	7.18	7.98	.....	8.89	e9.97	10.25	10.82
25	11.58	10.28	7.16	6.35	.....	7.48	8.25	.....	9.10	e10.13	10.37	10.92
EOM	11.50	10.13	7.57	6.60	.....	7.03	8.12	7.85	9.40	e10.22	10.49	11.00

WTR YEAR 1978 MAX 6.14 JAN 21, 1978 MIN 11.68 OCT 8, 9, 1977

e Estimated.

383138075260201. Local number, QE 44-1.
LOCATION.--Lat 38°31'38", long 75°26'02", Hydrologic Unit 02060008, 1.0 mi (1.6 km) east of Whaleys Crossroads.
Owner: Delaware Department of Highways and Transportation.
AQUIFER.--Columbia Deposits.
WELL CHARACTERISTICS.--Bored observation water-table well, diameter 1 in (0.03 m), depth 25 ft (7.6 m), well point 22 to 25 ft (6.7 to 7.6 m).
DATUM.--Altitude of land-surface datum is about 50 ft (15.2 m). Measuring point: Top of casing at land-surface datum.
PERIOD OF RECORD.--September 1959 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.99 ft (1.52 m) below land-surface datum, Mar. 20, 1963; lowest measured, 12.18 ft (3.71 m) below land-surface datum, Oct. 16, 1962, Sept. 8, 1964.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 8	9.54	JAN 25	5.19	APR 10	5.96	JUL 19	9.57				
DEC 15	7.87	MAR 2	6.34	MAY 22	5.84	AUG 23	8.03				

MARYLAND

ALLEGANY COUNTY

394024078273401. Local number, AL-Ah 1.
LOCATION.--Lat 39°40'24", long 78°27'34", Hydrologic Unit 02070003, on Fifteen Mile Creek, 2.8 mi (4.5 km) southeast of Pratt.
Owner: Green Ridge State Forest.
AQUIFER.--Jennings Formation.
WELL CHARACTERISTICS.--Drilled unused artesian (?) well, diameter 8 in (0.20 m), reported depth 300 ft (91.4 m), measured depth 113 ft (34.4 m), cased to unknown depth, open hole.
DATUM.--Altitude of land-surface datum is 720 ft (219 m). Measuring point: Top of sanitary seal in casing, 0.3 ft (0.09 m) above land-surface datum.
REMARKS.--Water level was deeper than 40 ft (12 m) below land-surface datum on Nov. 19, 1969, and Feb. 12, 1970, when well was being pumped.
PERIOD OF RECORD.--December 1949 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.80 ft (0.55 m) below land-surface datum, May 18, 1978; lowest measured, 22.80 ft (6.95 m) below land-surface datum, July 16, 1968.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR October 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	5.07	JAN 4	4.05	MAR 23	2.00	JUN 27	4.60	SEP 21	4.02		
NOV 21	4.40	FEB 22	3.83	MAY 18	1.80	JUL 24	4.77				

ANNE ARUNDEL COUNTY

391208076353501. Local number, AA-Ad 10.
LOCATION.--Lat 39°12'08", long 76°35'35", Hydrologic Unit 02060003, at Curtis Bay.
Owner: U.S. Army Reserve Center.
AQUIFER.--Patapsco Formation.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 to 6 in (0.20 to 0.15 m), depth 109 ft (33.2 m), length of casing and position of screen unknown.
DATUM.--Altitude of land-surface datum is 45 ft (14 m). Measuring point: Top of casing, 1.0 ft (0.30 m) above land-surface datum.
PERIOD OF RECORD.--August 1944, January 1946 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 29.96 ft (9.13 m) below land-surface datum, June 18, 1953; lowest measured, 36.56 ft (11.14 m) below land-surface datum, Apr. 21, 1944.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	33.80	DEC 30	33.42	APR 5	32.58	JUN 22	32.00	SEP 15	31.90		
DEC 2	33.51	FEB 10	32.86	MAY 19	32.23	AUG 18	32.60				

390303076463201. Local number, AA-Cb 1.
LOCATION.--Lat 39°03'03", long 76°46'32", Hydrologic Unit 02060006, on Duvall Bridge Rd., Fort George G. Meade.
Owner: U.S. Army.
AQUIFER.--Patuxent Formation.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 505 ft (153.9 m), cased to 485 ft (147.8 m), screened 485 to 505 ft (147.8 to 153.9 m).
DATUM.--Altitude of land-surface datum is 126 ft (38 m). Measuring point: Top lip of 3 in (0.08 m) extension pipe, 3.35 ft (1.02 m) above land-surface datum.
REMARKS.--Equipped with water-stage recorder during many periods.
PERIOD OF RECORD.--March 1962 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 40.60 ft (12.37 m) below land-surface datum, May 1, 1962; lowest measured, 72.80 ft (22.19 m) below land-surface datum, Aug. 10, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	69.45	JAN 5	67.08	MAR 7	66.33	MAY 5	67.98	JUL 13	71.40	SEP 6	71.47
NOV 17	68.71	FEB 2	66.60	APR 4	67.65	JUN 16	71.91	AUG 10	72.80		

MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

390423076432001. Local number, AA-Cc 40.

LOCATION.--Lat 39°04'23" long 76°43'20", Hydrologic Unit 02060006, on Rifle Range Rd., Fort George G. Meade.

Owner: U.S. Army.

AQUIFER.--Patapsco Formation.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 238 ft (72.5 m), cased to 208 ft (63.4 m), screened 208 to 238 ft (63.4 to 72.5 m).

DATUM.--Altitude of land-surface datum is 148 ft (45 m) (previously reported as 138 ft (42 m)). Measuring point: Top of recorder platform, 1.0 ft (0.30 m) above land-surface datum.

REMARKS.--Equipped with water-stage recorder Dec. 4, 1959, to July 21, 1960.

PERIOD OF RECORD.--December 1959 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 42.58 ft (12.98 m) below land-surface datum, Mar. 25, 1961; lowest measured, 49.22 ft (15.00 m), June 2, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	47.90	JAN 5	46.81	FEB 20	46.73	APR 4	46.22	JUN 14	46.25	AUG 10	46.92
NOV 17	47.70	12	47.25	MAR 20	46.97	MAY 18	45.86	JUL 13	46.58	SEP 6	47.05

BALTIMORE CITY

391617076322001. Local number, 2S5E-1.

LOCATION.--Lat 39°16'17", long 76°32'20", Hydrologic Unit 02060003, near Holabird Avenue and Pumphrey Street, at Fort Holabird, Baltimore.

Owner: City of Baltimore.

AQUIFER.--Patuxent Formation.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in (0.30 m), depth 290 ft (88.4 m), length of casing and position of screen unknown.

DATUM.--Altitude of land-surface datum is 30 ft (9.1 m). Measuring point: Top of casing, 1.8 ft (0.55 m) above land-surface datum.

PERIOD OF RECORD.--1934, April 1943 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 43.15 ft (13.15 m) below land-surface datum, Sept. 27, 1976; lowest measured, 103.70 ft (31.61 m), Oct. 15, 1948.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	71.75	DEC 30	71.88	APR 5	67.34	JUN 22	72.60	SEP 15	72.52		
DEC 2	70.85	FEB 10	69.70	MAY 19	73.25	AUG 18	73.65				

BALTIMORE COUNTY

393102076341801. Local number, BA-Ce 21.

LOCATION.--Lat 39°31'02", long 76°34'18", Hydrologic Unit 02060003, on Paper Mill Rd, about 0.2 mi (0.3 km) west of Jacksonville.

Owner: Baltimore County.

AQUIFER.--Loch Raven Schist (Wissahickon Group), revised.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 10 to 6 in (0.25 to 0.15 m), depth 350 ft (106.7 m), cased to 33 ft (10.1 m), open hole.

DATUM.--Altitude of land-surface datum is 536 ft (163 m). Measuring point: Top of casing, 2 ft (0.61 m) above land-surface datum.

PERIOD OF RECORD.--November and December 1955, November 1956 through September 1975, July 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.60 ft (3.84 m) below land-surface datum, June 23, 1972; lowest measured, 21.54 ft (6.57 m) below land-surface datum, Feb. 10, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 3	15.72	MAR 30	13.87	AUG 28	17.16						

MARYLAND--Continued

CALVERT COUNTY

381952076270901. Local number, CA-Gd 6.
LOCATION.--Lat 38°19'52", long 76°27'09", Hydrologic Unit 02060006, at the Lord Calvert Yacht Club, about 0.5 mi (0.8 km) northeast of Solomons.
Owner: Calvert Marina.
AQUIFER.--Aquia Formation.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 to 6 in (0.20 to 0.15 m), depth 493 ft (150.3 m), cased to 472 ft (143.9 m), screened 469 to 493 ft (143.0 to 150.3 m).
DATUM.--Altitude of land-surface datum is 10 ft (3.0 m). Measuring point: Top of pump base, 10 ft (3.0 m) above land-surface datum.
REMARKS.--Equipped with water-stage recorder Oct. 19, 1949, to Feb. 25, 1960.
PERIOD OF RECORD.--1942, January 1944, October 1949 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level reported, at land-surface datum, 1942; lowest measured, 58.9 ft (17.95 m) below land-surface datum, Jan. 13, 1944.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	50.48	JAN 3	47.09	FEB 22	47.28	MAY 12	47.69	JUL 27	49.13		
NOV 15	48.49	23	47.39	MAR 22	47.28	JUN 23	48.90	SEP 8	50.05		

CARROLL COUNTY

393638076510001. Local number, CL-Bf 1.
LOCATION.--Lat 39°36'38", long 76°51'00", Hydrologic Unit 02060003, on Hillcrest Street, Hampstead.
Owner: Town of Hampstead.
AQUIFER.--Prettyboy Schist (Wissahickon Group).
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 8 in (0.20 m), depth 407 ft (124.1 m), cased to about 65 ft (19.8 m), open hole.
DATUM.--Altitude of land-surface datum is 933 ft (284 m). Measuring point: Top of casing, 2.35 ft (0.72 m) above land-surface datum.
REMARKS.--Equipped with water-stage recorder Apr. 15, 1952, to Nov. 7, 1962.
PERIOD OF RECORD.--September and December 1946, April and September 1947, February 1949 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 52.30 ft (15.94 m) below land-surface datum, May 13, 1952; lowest measured, 76.26 ft (23.24 m) below land-surface datum, Feb. 10, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	72.69	JAN 3	66.22	FEB 24	62.28	APR 28	59.53	JUL 19	64.87		
NOV 14	73.09	23	65.26	MAR 27	61.40	JUN 13	60.88	AUG 31	67.14		

CHARLES COUNTY

383422077114601. Local number, CH-Cb 7.
LOCATION.--Lat 38°34'22", long 77°11'46", Hydrologic Unit 02070011, at Caffee and Greenslade Roads, about 2.5 mi (4.0 km) southwest of Indian Head.
Owner: U.S. Navy: Naval Ordnance Station.
AQUIFER.--Patapsco Formation.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 to 6 in (0.20 to 0.15 m), depth 400 ft (121.9 m), cased to 400 ft (121.9 m), screened 154 to 167 ft (46.9 to 50.9 m).
DATUM.--Altitude of land-surface datum is 36 ft (11 m). Measuring point: Top of casing at land-surface datum.
REMARKS.--Equipped with water-stage recorder Sept. 21, 1953, to July 8, 1965.
PERIOD OF RECORD.--March and April 1952, August 1953 to current year.
EXTREMES FOR PERIOD OF RECORD.--Higest water level measured, 57.35 ft (17.48 m) below land-surface datum, Apr. 18, 1952; lowest measured, 88.58 ft (27.00 m) below land-surface datum, Oct. 22, 1968.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	74.27	JAN 4	73.11	FEB 23	74.36	MAY 11	71.66	JUL 26	73.45		
NOV 16	73.65	24	73.62	MAR 23	73.53	JUN 22	72.54	SEP 7	71.67		

MARYLAND--Continued

DORCHESTER COUNTY

383346076030301. Local number, DO-Ce 21.
LOCATION.--Lat 38°33'46", long 76°03'03", Hydrologic Unit 02060005, on Shoal Creek about 1.5 mi (2.4 km) southeast of Cambridge.
Owner: Eastern Shore State Hospital.
AQUIFER.--Piney Point Formation.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 to 4.5 in (0.20 to 0.11 m), depth 368 ft (112.2 m), cased to 368 ft (112.2 m).
DATUM.--Altitude of land-surface datum is 12 ft (3.7 m). Measuring point: Top casing at land-surface datum.
REMARKS.--Equipped with water-stage recorder Aug. 23, 1956, to Nov. 6, 1958, and Sept. 11, 1965, to Oct. 13, 1966.
PERIOD OF RECORD.--August 1914, February 1952, August 1956 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level reported, 14 ft (4.3 m) below land-surface datum, August 1914; lowest measured, 137.49 ft (41.91 m) below land-surface datum, Feb. 8, 1962, affected by pumpage of nearby well.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	76.05	JAN 5	71.64	APR 18	79.66	JUN 6	83.41	AUG 29	85.00		
DEC 9	72.97	FEB 28	77.68	MAY 19	84.89	JUL 18	77.85				

GARRETT COUNTY

394016078581601. Local number, GA-Ag 1.
LOCATION.--Lat 39°40'16", long 78°58'16", Hydrologic Unit 02070002, in the Savage River valley, 2.5 mi (4.0 km) northwest of Frostburg.
Owner: Town of Frostburg.
AQUIFER.--Pocono Sandstone or Greenbrier Limestone.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 8 in (0.20 m), depth 30 ft (9.1 m), cased to unknown depth, open hole.
DATUM.--Altitude of land-surface datum is 2,530 ft (771 m). Measuring point: Top of casing at land-surface datum.
PERIOD OF RECORD.--October 1946 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.71 ft (1.74 m) below land-surface datum, Jan. 14, 1950; lowest measured, 9.37 ft (2.86 m) below land-surface datum, Nov. 24, 1964.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	7.65	JAN 4	6.89	FEB 21	6.96	APR 24	6.82	JUN 23	6.94	AUG 24	6.99
NOV 21	6.92	24	6.87	MAR 23	6.73	MAY 23	6.71	JUL 24	6.96	SEP 25	7.08
DEC 22	6.73										

HARFORD COUNTY

392343076161901. Local number, HA-Ed 24.
LOCATION.--Lat 39°23'43", long 76°16'19", Hydrologic Unit 02060003, at Bush River Road and 29th Street, about 2 mi (3.2 km) southeast of Edgewood.
Owner: U.S. Army: Edgewood Arsenal.
AQUIFER.--Patapsco Formation.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 18 to 10 in (0.46 to 0.25 m), depth 149 ft (45.4 m), cased to 120 ft (36.6 m), screened 120 to 135 ft (36.6 to 41.1 m).
DATUM.--Altitude of land-surface datum is 13 ft (4.0 m). Measuring point: Top of casing, 1.15 ft (0.35 m) above land-surface datum.
REMARKS.--Equipped with water-stage recorder Jan. 24, 1950, to June 6, 1961.
PERIOD OF RECORD.--April 1944, September 1949, January 1950 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.24 ft (2.51 m) below land-surface datum, Apr. 13, 1944; lowest measured, 38.40 ft (11.70 m) below land-surface datum, Apr. 23, 1967.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 4	10.69	MAR 7	10.23	AUG 24	9.85						

MARYLAND--Continued

MONTGOMERY COUNTY

390434076573002. Local number, MO-Eh 20.
LOCATION.--Lat 39°04'34", long 76°57'30", Hydrologic Unit 02070010, at Sate Highway 196 and Fairland Road, Fairland.
Owner: Cities Service Oil Co.
AQUIFER.--Wissahickon Group.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 5.6 in (0.14 m), depth 103 ft (31.4 m), cased to 50 ft (15.2 m), open hole.
DATUM.--Altitude of land-surface datum is 410 ft (125 m). Measuring point: West side of bell housing at inside of lip at land-surface datum.
PERIOD OF RECORD.--March 1955 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.39 ft (1.34 m) below land-surface datum, June 25, 1972; lowest measured, 14.88 ft (4.54 m) below land-surface datum, Sept. 26, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	13.39	DEC 23	10.27	FEB 22	11.12	APR 24	11.20	JUN 23	11.17	AUG 24	12.21
NOV 23	13.00	JAN 26	8.04	MAR 23	9.74	MAY 24	9.61	JUL 24	12.14	SEP 25	13.13

WASHINGTON COUNTY

393638078001301. Local number, WA-Be 2.
LOCATION.--Lat 39°36'38", long 78°00'13", Hydrologic Unit 02070004, about 1.2 mi (1.9 km) southeast of Big Pool.
Owner: Fort Frederick State Park.
AQUIFER.--Romney Shale.
WELL CHARACTERISTICS.--Dug unused water-table well, diameter 42 in (1.07 m), depth 43 ft (13.1 m), cribbed with stone.
DATUM.--Altitude of land-surface datum is 470 ft (143 m). Measuring point: Top of stone sill, 0.8 ft (0.24 m) above land-surface datum.
PERIOD OF RECORD.--December 1949, June 1950 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 17.90 ft (5.46 m) below land-surface datum, May 15, 1972; lowest measured, 36.92 ft (11.25 m) below land-surface datum, Jan. 11, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	35.40	JAN 4	26.25	APR 5	21.51	JUN 28	29.35	SEP 19	32.66		
NOV 22	32.79	FEB 23	29.23	MAY 17	27.03	AUG 9	29.64				

WICOMICO COUNTY

382037075310801. Local number, WI-Cf 3.
LOCATION.--Lat 38°20'37", long 75°31'08", Hydrologic Unit 02060007, on Airport Road, about 5 mi (8.0 km) southeast of Salisbury.
Owner: Salisbury Wicomico Airport.
AQUIFER.--Columbia Deposits.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 16 in (0.41 m), depth 109 ft (33.2 m), cased to 90 ft (27.4 m), screened 90 to 108 ft (27.4 to 32.9 m).
DATUM.--Altitude of land-surface datum is 45 ft (14 m). Measuring point: Top of casing, 2.0 ft (0.61 m) above land-surface datum.
REMARKS.--Equipped with water-stage recorder Aug. 2, 1949, to Apr. 11, 1960, and Aug. 29, 1963, to Aug. 20, 1968.
PERIOD OF RECORD.--October 1942, September 1947 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.90 ft (0.58 m) below land-surface datum, May 7, 1958; lowest measured, 13.44 ft (4.10 m) below land-surface datum, Sept. 18, 1947.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 8	8.11	JAN 6	5.62	APR 17	6.32	JUL 19	7.91				
DEC 12	7.77	FEB 27	6.34	MAY 30	5.45	AUG 30	7.71				

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MULTIPLE STATION LISTING

LOCAL IDENT- I- FIER	STATION NUMBER	GEO- LOGIC UNIT	DATE OF SAMPLE	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT) (72016)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE, AIR (DEG C) (00020)	TEMPER- ATURE (DEG C) (00010)
SUSSEX COUNTY, DELAWARE									
NF44 1 39703	384704075212900	122MNKN	77-11-22	121	40.00	244	6.1	7.0	16.5
OH54 1 39704	384038075110000	122MNKN	77-11-22	290	18.00	462	8.0	9.5	17.5
OH54 2 39704	384038075110002	122PCMK	77-11-22	189	18.00	220	5.9	9.5	17.0
PG53 13	383525075174101	122PCMK	78-01-31	250	22.00	115	6.4	4.5	14.0
ANNE ARUNDEL COUNTY, MARYLAND									
BE 68 680666	390538076453002	217PTXN	78-06-07	497	130.00	32	4.1	--	14.8
CG 22 738606	390123076241601	217PTXN	78-06-21	1755	10.00	125	7.2	--	21.5
		217PTXN	78-09-26	1755	10.00	120	6.5	--	21.5
CG 23 738959	390123076241602	217PPSC	78-08-11	--	10.00	100	6.2	--	18.5
		217PPSC	78-09-20	978	10.00	95	6.4	--	18.5
CG 24 738960	390123076241603	217PPSC	78-09-13	658	10.00	140	6.0	--	17.0
DE 128 738278	385530076334701	217PPSC	78-04-25	--	30.00	180	--	--	17.0
CALVERT COUNTY									
DC 37 731780	383336076312401	125AQUI	78-04-12	598	110.00	--	--	--	--
CECIL COUNTY									
EE 29 732266	392403075521801	--	78-08-01	.05	75.00	410	7.3	--	17.0
CHARLES COUNTY									
BF 142 731750	383732076531901	211MGTY	78-03-21	524	203.00	--	7.6	--	12.0
EE 78 78 T7	382240076582801	217PTXN	78-06-16	1200	70.00	620	7.8	--	23.0
GARRETT COUNTY									
AB 10 730249	394037079240301	321CNMG	78-06-01	128	1905.00	355	7.4	--	14.0
AC 23 730501	394137079182701	337POCN	78-06-01	123	2580.00	220	7.7	--	21.0
AD 16 730102	394133079102001	321CNMG	78-06-02	83	2210.00	310	7.8	--	13.0

Geologic unit (aquifer):

122MNKN - Manokin Aquifer
122PCMK - Pocomoke Aquifer
125AQUI - Aquia Formation
211MGTY - Magothy Formation
217PPSC - Patapsco Formation
217PTXN - Patuxent Formation
321CNMG - Conemaugh Formation
337POCN - Pocono Group

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WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MULTIPLE STATION LISTING

LOCAL IDENT- I- FIER	DATE OF SAMPLE	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	ACIDITY (MG/L AS H) (71825)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE (MG/L AS HCO3) (00440)
				SUSSEX COUNTY, DELAWARE						
NF44 1 39703	77-11-22	4	19	0	--	5.9	1.0	5.2	1.6	27
OH54 1 39704	77-11-22	23	12	0	--	2.1	1.6	66	6.0	190
OH54 2 39704	77-11-22	12	12	0	--	3.5	.8	7.7	1.4	21
PG53 13	78-01-31	60	21	0	--	5.4	1.8	13	2.0	45
				ANNE ARUNDEL COUNTY, MARYLAND						
BB 68 680666	78-06-07	5	3	3	.2	.7	.3	1.7	.7	0
CG 22 738606	78-06-21	200	16	0	--	3.5	1.8	17	5.8	46
	78-09-26	300	16	0	--	3.4	1.8	16	5.4	52
CG 23 738959	78-08-11	15	29	15	--	6.3	3.1	1.7	2.4	17
	78-09-20	5	24	12	--	4.9	2.8	1.3	2.3	14
CG 24 738960	78-09-13	5	28	19	--	6.0	3.2	1.3	2.0	11
DE 128 738278	78-04-25	30	39	10	--	11	2.9	1.7	2.3	36
				CALVERT COUNTY						
DC 37 731780	78-04-12	10	120	0	--	27	13	9.6	15	180
				CECIL COUNTY						
EE 29 732266	78-08-01	200	15	0	--	4.6	.8	70	3.2	190
				CHARLES COUNTY						
BF 142 731750	78-03-21	10	140	0	--	36	13	8.8	11	190
EE 78 78 T7	78-06-16	35	4	0	--	1.0	.4	140	2.4	300
				GARRETT COUNTY						
AB 10 730249	78-06-01	3	200	39	--	66	7.4	.9	1.0	190
AC 23 730501	78-06-01	3	95	26	--	22	9.8	3.8	1.1	85
AD 16 730102	78-06-02	5	140	17	--	43	7.9	3.1	1.3	150

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MULTIPLE STATION LISTING

LOCAL IDENT- I- FIER	DATE OF SAMPLE	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)
SUSSEX COUNTY, DELAWARE										
NF44 1 39703	77-11-22	.00	--	--	--	--	--	790	770	--
OH54 1 39704	77-11-22	.96	--	--	--	--	--	4700	2100	--
OH54 2 39704	77-11-22	.01	--	--	--	--	--	790	320	--
PG53 13	78-01-31	.16	--	--	--	--	--	9300	9200	--
ANNE ARUNDEL COUNTY, MARYLAND										
BB 68 680666	78-06-07	.00	--	--	--	--	--	770	680	--
CG 22 738606	78-06-21	.27	--	--	--	--	--	5200	6200	--
	78-09-26	.23	--	--	--	--	--	6600	6600	--
CG 23 738959	78-08-11	.06	--	--	--	--	--	13000	13000	--
	78-09-20	.02	--	--	--	--	--	15000	15000	--
CG 24 738960	78-09-13	.21	--	--	--	--	--	32000	26000	--
DE 128 738278	78-04-25	.55	--	--	--	--	--	18000	24000	--
CALVERT COUNTY										
DC 37 731780	78-04-12	.00	--	--	--	--	--	410	300	--
CECIL COUNTY										
EE 29 732266	78-08-01	.26	--	--	--	--	--	4100	1700	--
CHARLES COUNTY										
BF 142 731750	78-03-21	.02	--	--	--	--	--	550	540	--
EE 78 78 T7	78-06-16	1.1	--	--	--	--	--	1300	490	--
GARRETT COUNTY										
AB 10 730249	78-06-01	.01	--	--	--	--	--	100	70	--
AC 23 730501	78-06-01	.01	--	--	--	--	--	770	820	--
AD 16 730102	78-06-02	.00	--	--	--	--	--	250	3000	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MULTIPLE STATION LISTING

LOCAL IDENT-I-FIER	DATE OF SAMPLE	ALKA-LINITY (MG/L AS CACO3) (00410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
SUSSEX COUNTY, DELAWARE										
NF44 1 39703	77-11-22	22	7.1	4.1	.0	20	57	59	--	.00
OH54 1 39704	77-11-22	160	6.6	10	.4	16	265	205	--	.01
OH54 2 39704	77-11-22	17	6.3	7.8	.0	22	79	60	--	.44
PG53 13	78-01-31	37	3.4	5.8	.1	32	82	95	--	.02
ANNE ARUNDEL COUNTY, MARYLAND										
BB 68 680666	78-06-07	0	5.6	1.7	.0	8.3	19	20	--	.00
CG 22 738606	78-06-21	38	13	3.6	.1	12	116	86	--	.00
	78-09-26	43	14	5.0	.1	12	82	90	--	.00
CG 23 738959	78-08-11	14	18	1.7	.1	7.7	109	63	--	.04
	78-09-20	11	18	.8	.1	7.8	48	60	--	.00
CG 24 738960	78-09-13	9	16	7.6	.1	7.7	98	76	--	.00
DE 128 738278	78-04-25	30	--	--	--	--	--	--	--	.00
CALVERT COUNTY										
DC 37 731780	78-04-12	150	9.8	.7	.2	14	177	178	--	.00
CECIL COUNTY										
EE 29 732266	78-08-01	160	13	16	.9	8.1	439	212	--	.03
CHARLES COUNTY										
BF 142 731750	78-03-21	160	7.5	1.0	.2	11	190	183	--	.00
EE 78 78 T7	78-06-16	250	24	31	.8	42	402	390	--	.01
GARRETT COUNTY										
AB 10 730249	78-06-01	160	33	3.4	.1	6.9	238	212	--	.22
AC 23 730501	78-06-01	70	25	1.8	.1	15	112	121	--	.00
AD 16 730102	78-06-02	120	12	7.8	.1	7.4	160	160	--	.01

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MULTIPLE STATION LISTING

LOCAL IDENT-I-FIER	DATE OF SAMPLE	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)
	SUSSEX COUNTY, DELAWARE				
NF44 1 39703	77-11-22	50	50	--	--
OH54 1 39704	77-11-22	40	30	--	--
OH54 2 39704	77-11-22	40	40	--	--
PG53 13	78-01-31	260	260	--	--
	ANNE ARUNDEL COUNTY, MARYLAND				
BB 68 680666	78-06-07	30	30	--	--
CG 22 738606	78-06-21	190	200	--	--
	78-09-26	210	220	--	--
CG 23 738959	78-08-11	290	340	--	--
	78-09-20	340	350	--	--
CG 24 738960	78-09-13	320	340	--	--
DE 128 738278	78-04-25	260	270	--	--
	CALVERT COUNTY				
DC 37 731780	78-04-12	10	10	--	--
	CECIL COUNTY				
EE 29 732266	78-08-01	40	40	--	--
	CHARLES COUNTY				
BF 142 731750	78-03-21	30	30	--	--
EE 78 78 T7	78-06-16	40	20	--	--
	GARRETT COUNTY				
AB 10 730249	78-06-01	10	10	--	--
AC 23 730501	78-06-01	180	160	--	--
AD 16 730102	78-06-02	220	270	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MULTIPLE STATION LISTING

LOCAL IDENT-I-FIER	STATION NUMBER	GEO-LOGIC UNIT	DATE OF SAMPLE	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL (FT) (72016)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS) (00095)	PH (UNITS) (00400)	TEMPER-ATURE, AIR (DEG C) (00020)	TEMPER-ATURE (DEG C) (00010)
			GARRETT COUNTY, MARYLAND						
AD 17	394217079121801	324PVAG	78-08-02	--	2835.00	25	5.3	--	16.0
AE 38 730500	394141079064402	321CNMG	78-06-02	57	2520.00	190	7.9	--	14.0
AE 63 730489	394144079074601	321CNMG	78-06-02	59	2270.00	--	--	--	--
AF 18 730180	394114079041101	337POCN	78-06-02	103	2640.00	165	7.9	--	11.0
AF 42 730911	394035079022701	341JNGS	78-05-18	172	2640.00	215	7.0	--	17.0
AG 30 730057	394317078583301	341JNGS	78-06-01	147	2640.00	110	6.6	--	15.0
AG 39 730370	394051078574701	331GRBR	78-06-01	196	2680.00	205	7.5	--	14.0
BA 6	393641079280401	321CNMG	78-08-02	150	2400.00	25	6.5	--	17.0
BB 21 730157	393947079232101	321CNMG	78-06-01	298	1870.00	245	7.3	--	17.0
BC 33 730149	393935079190901	341HMPR	78-06-01	139	1975.00	255	7.6	--	14.0
BC 36 73 48	393542079160601	321CNMG	78-08-03	85	2765.00	280	7.0	--	14.0
BD 19 73 222	393950079130401	321CNMG	78-08-02	258	2550.00	195	8.3	--	19.0
BD 36 012726	393550079131301	321CNMG	78-07-12	82	2695.00	235	7.2	--	12.0
BD 38	393525079130701	321CNMG	78-08-01	--	2505.00	80	6.3	--	10.0
BE 13 73 358	393748079080301	331GRBR	78-08-01	123	1560.00	175	7.8	--	21.0
BF 11 730153	393911079025301	341JNGS	78-05-18	405	2700.00	285	7.8	--	17.0
BF 12 730331	393552079045901	341JNGS	78-05-18	60	1755.00	185	8.1	--	10.0
BF 24 70 57	393738079005601	337POCN	78-08-01	100	2655.00	80	6.3	--	14.0
BG 4	393525078595802	321CNMG	78-08-01	--	1990.00	150	8.4	--	9.5
CA 50 731390	393132079255701	324PVAG	78-07-26	497	2590.00	75	5.1	--	19.0
CA 51	393122079265701	324PVAG	78-07-26	--	2610.00	35	4.7	--	9.0
CA 53 73 892	393133079254401	324PVAG	78-07-26	190	2680.00	35	4.6	--	11.0
CB 40 047128	393453079200501	337POCN	78-08-03	320	2900.00	90	6.4	--	19.0
CB 51	393127079204601	337POCN	78-08-02	--	2595.00	50	4.1	--	10.5
CB 59 73 27	393338079244201	331GRBR	78-08-02	150	2110.00	280	7.6	--	14.0
CC 13	393252079183501	324PSVL	78-08-02	--	2620.00	25	4.8	--	8.0
CC 46 73 247	393211079190901	331MCCK	78-07-13	150	2490.00	100	7.5	--	11.0
CC 51 731440	393009079190501	337POCN	78-06-22	405	2490.00	205	7.7	--	10.0
CC 55 72 285	393028079170001	337POCN	78-08-01	145	2500.00	135	6.7	--	10.5
CF 8 73 715	393242079024001	321CNMG	78-08-01	258	1885.00	70	7.4	--	15.0
DB 73 73 789	392936079232901	321CNMG	78-08-03	125	2645.00	25	6.0	--	11.0
DC 73 730243	392605079170901	341HMPR	78-05-18	147	2610.00	175	6.1	--	9.0
DC 136 71 88	392803079173901	341JNGS	78-06-23	165	2505.00	140	7.3	--	12.0
DD 18 73 244	392809079130701	341HMPR	78-07-20	145	2430.00	60	5.9	--	20.0
DD 27 73 841	392700079112501	324PVAG	78-07-27	280	2600.00	290	6.7	--	18.0
DE 24 731604	392639079071101	321CNMG	78-06-14	158	1700.00	145	6.8	--	12.0

Geologic unit (aquifer):

321CNMG - Conemaugh Formation
324PSVL - Pottsville Formation
324PVAG - Pottsville-Allegheny Formations, Undifferentiated
331GRBR - Greenbrier Formation
331MCCK - Mauch Chunk Formation
337POCN - Pocono Group
341HMPR - Hampshire Formation
341JNGS - Jennings Formation

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QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MULTIPLE STATION LISTING

LOCAL IDENT-I-FIER	DATE OF SAMPLE	COLOR (PLAT-INUM-COBALT UNITS) (00080)	HARD-NESS (MG/L AS CACO3) (00900)	HARD-NESS, NONCAR-BONATE (MG/L CACO3) (00902)	ACIDITY (MG/L AS H) (71825)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE (MG/L AS HCO3) (00440)
GARRETT COUNTY, MARYLAND										
AD 17	78-08-02	20	12	8	--	3.8	.5	.3	.6	4
AE 38 730500	78-06-02	5	88	6	--	27	5.1	.5	.6	100
AE 63 730489	78-06-02	--	--	--	--	--	--	--	--	--
AF 18 730180	78-06-02	35	69	6	--	22	3.4	3.0	.7	77
AF 42 730911	78-05-18	30	84	0	--	17	10	6.2	1.4	120
AG 30 730057	78-06-01	10	42	2	--	6.6	6.3	2.5	1.2	49
AG 39 730370	78-06-01	3	76	0	--	23	4.5	5.1	1.8	94
BA 6	78-08-02	10	3	0	--	.7	.4	.3	.5	4
BB 21 730157	78-06-01	3	120	7	--	33	9.6	.6	2.1	140
BC 33 730149	78-06-01	3	71	0	--	20	5.2	22	1.5	100
BC 36 73 48	78-08-03	5	130	10	--	43	6.2	.5	1.0	150
BD 19 73 222	78-08-02	5	1	0	--	.1	.1	41	1.8	110
BD 36 012726	78-07-12	3	110	12	--	32	7.5	1.2	1.1	120
BD 38	78-08-01	5	33	9	--	9.2	2.5	.6	.8	30
BE 13 73 358	78-08-01	5	76	1	--	22	5.2	2.6	.8	92
BF 11 730153	78-05-18	5	110	0	--	29	10	12	.6	150
BF 12 730331	78-05-18	5	63	0	--	17	5.0	13	.7	100
BF 24 70 57	78-08-01	5	32	13	--	8.4	2.7	.6	.9	23
BG 4	78-08-01	10	61	16	--	17	4.5	1.3	.9	55
CA 50 731390	78-07-26	11	12	7	--	3.3	.9	1.9	.9	6
CA 51	78-07-26	10	7	7	--	1.6	.8	.5	.6	0
CA 53 73 892	78-07-26	15	5	2	--	1.1	.5	.4	.5	3
CB 40 047128	78-08-03	10	38	10	--	13	1.4	1.0	.9	34
CB 51	78-08-02	5	10	10	.2	2.0	1.3	.5	.8	0
CB 59 73 27	78-08-02	5	130	19	--	49	2.7	.9	.8	140
CC 13	78-08-02	5	7	7	--	1.9	.5	.4	.6	0
CC 46 73 247	78-07-13	20	41	0	--	10	3.9	3.0	1.0	62
CC 51 731440	78-06-22	7	84	8	--	22	7.0	7.0	1.5	92
CC 55 72 285	78-08-01	10	46	18	--	8.5	6.1	3.4	1.1	34
CF 8 73 715	78-08-01	5	3	0	--	1.0	.2	160	.3	290
DB 73 73 789	78-08-03	5	9	9	--	1.5	1.3	.3	.5	0
DC 73 730243	78-05-18	5	41	29	--	8.8	4.7	12	1.2	15
DC 136 71 88	78-06-23	3	55	7	--	7.7	8.8	4.6	2.1	59
DD 18 73 244	78-07-20	3	19	9	--	4.5	2.0	1.3	1.2	13
DD 27 73 841	78-07-27	12	1	0	--	.2	.1	65	.2	75
DE 24 731604	78-06-14	5	59	8	--	14	5.8	1.3	.9	62

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MULTIPLE STATION LISTING

LOCAL IDENT- I- FIER	DATE OF SAMPLE	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)
GARRETT COUNTY, MARYLAND										
AD 17	78-08-02	.02	--	--	--	--	--	430	310	--
AE 38 730500	78-06-02	.03	--	--	--	--	--	130	90	--
AE 63 730489	78-06-02	--	--	--	--	--	--	--	--	--
AF 18 730180	78-06-02	.05	--	--	--	--	--	1900	2000	--
AF 42 730911	78-05-18	.07	--	--	--	--	--	4300	4600	--
AG 30 730057	78-06-01	.00	--	--	--	--	--	750	870	--
AG 39 730370	78-06-01	.02	--	--	--	--	--	1500	1500	--
BA 6	78-08-02	.01	--	--	--	--	--	80	40	--
BB 21 730157	78-06-01	.00	--	--	--	--	--	1700	1700	--
BC 33 730149	78-06-01	.01	--	--	--	--	--	150	130	--
BC 36 73 48	78-08-03	.01	--	--	--	--	--	410	390	--
BD 19 73 222	78-08-02	.01	--	--	--	--	--	270	30	--
BD 36 012726	78-07-12	.00	--	--	--	--	--	90	80	--
BD 38	78-08-01	.00	--	--	--	--	--	120	60	--
BE 13 73 358	78-08-01	.02	--	--	--	--	--	40	0	--
BF 11 730153	78-05-18	.00	--	--	--	--	--	80	130	--
BF 12 730331	78-05-18	.02	--	--	--	--	--	70	30	--
BF 24 70 57	78-08-01	.02	--	--	--	--	--	410	330	--
BG 4	78-08-01	.00	--	--	--	--	--	70	60	--
CA 50 731390	78-07-26	.00	--	--	--	--	--	60	60	--
CA 51	78-07-26	.00	--	--	--	--	--	20	30	--
CA 53 73 892	78-07-26	.00	--	--	--	--	--	80	50	--
CB 40 047128	78-08-03	.00	--	--	--	--	--	130	70	--
CB 51	78-08-02	.00	--	--	--	--	--	70	30	--
CB 59 73 27	78-08-02	.02	--	--	--	--	--	50	50	--
CC 13	78-08-02	.02	--	--	--	--	--	30	30	--
CC 46 73 247	78-07-13	.01	--	--	--	--	--	1300	1200	--
CC 51 731440	78-06-22	.00	--	--	--	--	--	1700	1700	--
CC 55 72 285	78-08-01	.00	--	--	--	--	--	30	50	--
CF 8 73 715	78-08-01	.02	--	--	--	--	--	80	100	--
DB 73 73 789	78-08-03	.00	--	--	--	--	--	420	510	--
DC 73 730243	78-05-18	.01	--	--	--	--	--	310	50	--
DC 136 71 88	78-06-23	.00	--	--	--	--	--	3100	290	--
DD 18 73 244	78-07-20	.00	--	--	--	--	--	380	220	--
DD 27 73 841	78-07-27	.05	--	--	--	--	--	140	110	--
DE 24 731604	78-06-14	.03	--	--	--	--	--	2900	280	--

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MULTIPLE STATION LISTING

LOCAL IDENT- I- FIER	DATE OF SAMPLE	ALKA- LINITY (MG/L AS CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
GARRETT COUNTY, MARYLAND										
AD 17	78-08-02	3	9.6	1.3	.0	4.3	30	23	--	.09
AE 38 730500	78-06-02	82	6.3	1.8	.2	8.5	102	99	--	.04
AE 63 730489	78-06-02	--	--	--	--	--	--	--	--	--
AF 18 730180	78-06-02	63	9.3	.7	.1	16	100	95	--	.00
AF 42 730911	78-05-18	98	4.6	.7	.2	20	120	125	--	.02
AG 30 730057	78-06-01	40	5.9	1.0	.1	15	64	64	--	.02
AG 39 730370	78-06-01	77	9.1	2.9	.2	7.1	101	102	--	.00
BA 6	78-08-02	3	.2	1.3	.0	5.1	12	11	--	.16
BB 21 730157	78-06-01	110	9.9	1.0	.1	6.4	134	134	--	.06
BC 33 730149	78-06-01	82	22	11	.1	8.9	127	140	--	.01
BC 36 73 48	78-08-03	120	8.9	1.9	.1	9.2	179	145	--	.04
BD 19 73 222	78-08-02	90	6.1	3.1	.1	28	137	135	--	.00
BD 36 012726	78-07-12	98	8.1	1.9	.0	8.1	132	119	--	.15
BD 38	78-08-01	25	9.0	.9	.0	5.5	56	43	--	.46
BE 13 73 358	78-08-01	75	8.8	1.5	.1	7.7	110	94	--	.56
BF 11 730153	78-05-18	120	19	1.0	.1	13	154	159	--	.05
BF 12 730331	78-05-18	82	1.1	5.5	.1	13	100	105	--	.01
BF 24 70 57	78-08-01	19	8.1	.7	.1	6.2	56	39	--	.48
BG 4	78-08-01	45	10	3.5	.1	5.8	96	70	--	.53
CA 50 731390	78-07-26	5	18	5.0	.1	4.0	48	37	--	.22
CA 51	78-07-26	0	5.2	1.4	.1	5.0	24	15	--	.60
CA 53 73 892	78-07-26	2	3.6	.3	.0	5.4	24	13	--	.10
CB 40 047128	78-08-03	28	7.6	.4	.0	7.0	68	48	--	.50
CB 51	78-08-02	0	9.9	.7	.0	5.2	39	21	--	.91
CB 59 73 27	78-08-02	110	12	2.1	.0	6.2	164	143	--	1.2
CC 13	78-08-02	0	9.4	.9	.1	2.8	30	17	--	.18
CC 46 73 247	78-07-13	51	4.2	.0	.0	11	75	65	--	.02
CC 51 731440	78-06-22	75	15	.1	.1	17	120	117	--	.00
CC 55 72 285	78-08-01	28	5.3	6.7	.0	12	124	60	--	4.8
CF 8 73 715	78-08-01	240	120	1.1	.2	6.1	452	432	--	.01
DB 73 73 789	78-08-03	0	4.3	1.0	.0	5.0	27	15	--	.51
DC 73 730243	78-05-18	12	12	27	.0	9.0	101	82	--	1.0
DC 136 71 88	78-06-23	48	7.8	1.7	.3	15	79	78	--	.18
DD 18 73 244	78-07-20	11	10	2.6	.0	7.1	40	35	--	.88
DD 27 73 841	78-07-27	62	62	5.5	.2	8.7	179	179	--	.00
DE 24 731604	78-06-14	51	9.5	.6	.1	7.9	74	71	--	.00

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MULTIPLE STATION LISTING

GARRETT COUNTY, MARYLAND

LOCAL IDENT-I-FIER	DATE OF SAMPLE	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)
AD 17	78-08-02	110	110	--	--
AE 38 730500	78-06-02	50	40	--	--
AE 63 730489	78-06-02	--	--	--	--
AF 18 730180	78-06-02	300	280	--	--
AF 42 730911	78-05-18	760	810	--	--
AG 30 730057	78-06-01	140	130	--	--
AG 39 730370	78-06-01	240	220	--	--
BA 6	78-08-02	20	30	--	--
BB 21 730157	78-06-01	100	80	--	--
BC 33 730149	78-06-01	130	120	--	--
BC 36 73 48	78-08-03	40	40	--	--
BD 19 73 222	78-08-02	10	0	--	--
BD 36 012726	78-07-12	20	10	--	--
BD 38	78-08-01	10	10	--	--
BE 13 73 358	78-08-01	10	10	--	--
BF 11 730153	78-05-18	20	100	--	--
BF 12 730331	78-05-18	60	60	--	--
BF 24 70 57	78-08-01	40	50	--	--
BG 4	78-08-01	10	10	--	--
CA 50 731390	78-07-26	300	300	--	--
CA 51	78-07-26	100	100	--	--
CA 53 73 892	78-07-26	40	30	--	--
CB 40 047128	78-08-03	80	60	--	--
CB 51	78-08-02	160	160	--	--
CB 59 73 27	78-08-02	20	10	--	--
CC 13	78-08-02	190	200	--	--
CC 46 73 247	78-07-13	70	70	--	--
CC 51 731440	78-06-22	150	150	--	--
CC 55 72 285	78-08-01	10	0	--	--
CF 8 73 715	78-08-01	0	10	--	--
DB 73 73 789	78-08-03	80	100	--	--
DC 73 730243	78-05-18	10	10	--	--
DC 136 71 88	78-06-23	240	190	--	--
DD 18 73 244	78-07-20	30	30	--	--
DD 27 73 841	78-07-27	10	0	--	--
DE 24 731604	78-06-14	260	280	--	--

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MULTIPLE STATION LISTING

LOCAL IDENT-I-FIER	STATION NUMBER	GEO-LOGIC UNIT	DATE OF SAMPLE	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL (FT) (72016)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS) (00095)	PH (UNITS) (00400)	TEMPER-ATURE, AIR (DEG C) (00020)	TEMPER-ATURE (DEG C) (00010)
			GARRETT COUNTY, MARYLAND						
DE 25 731437	392940079095901	337POCN	78-07-20	100	1640.00	280	7.4	--	14.0
DF 1 731651	392836079043801	321CNMG	78-06-14	400	1200.00	1800	6.3	--	13.0
EA 42 73 392	392251079263501	337POCN	78-07-13	93	2420.00	140	7.2	--	16.0
EA 50 73 861	392036079285401	337POCN	78-07-20	185	2510.00	220	8.0	--	13.0
EA 59 73 108	392427079251001	331GRBR	78-07-13	93	2440.00	90	5.5	--	14.0
EB 59 73 406	392221079215701	341HMPR	78-07-20	200	2585.00	80	6.9	--	16.0
EB 72	392420079221701	341JNGS	78-08-09	--	2410.00	25	6.9	--	8.5
EC 1 70GAPS	392403079182201	331GRBR	78-07-27	--	2500.00	150	7.8	--	10.0
EC 15 73 390	392147079173501	321CNMG	78-07-27	160	2610.00	315	7.8	--	12.5
ED 5 73 17	392415079105001	321CNMG	78-07-27	183	2380.00	375	7.6	--	14.0
FA 20 73 291	391558079254601	321CNMG	78-08-03	78	2750.00	25	6.8	--	21.0
FA 23 72 6	391755079284001	341JNGS	78-07-13	123	2465.00	130	6.9	--	19.0
			KENT COUNTY						
AC 20 730658	392007076075501	217PTMC	77-12-02	--	5.00	--	--	--	--
CB 36 730660	391400076101401	217PTMC	78-04-18	--	--	420	8.1	--	15.5
		217PTMC	78-04-20	--	--	280	--	--	14.0
		217PTMC	78-04-25	--	--	2850	6.8	--	14.0
		217PTMC	78-04-26	--	--	170	6.9	--	14.0
			MONTGOMERY COUNTY						
CC 31 730502	391057077243501	300IJMV	78-07-12	160	530.00	25	5.4	--	--
DB 26 049669	390745077283901	231NOXF	78-07-12	145	280.00	15	8205	--	--
DB 68 731869	390802077283801	231NOXF	78-07-13	252	260.00	235	7.6	--	14.0
			PRINCE GEORGES COUNTY						
GE 18 730858	383848076495801	125AQUI	78-05-15	407	190.00	315	7.4	--	16.0
			QUEEN ANNES COUNTY						
FC 8 732193	385436076120301	125AQUI	78-08-01	356	10.00	10	6.8	--	16.0

Geologic unit (aquifer):

125AQUI - Aquia Formation
217PTMC - Potomac Group
231NOXF - New Oxford Formation
300IJMV - Ijamsville Formation
321CNMG - Conemaugh Formation
331GRBR - Greenbrier Formation
337POCN - Pocono Group
341HMPR - Hampshire Formation
341JNGS - Jennings Formation

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WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MULTIPLE STATION LISTING

LOCAL IDENT- I- FIER	DATE OF SAMPLE	COLOR (PLAT- INUM- COBALT UNITS) (00080)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	ACIDITY (MG/L AS H) (71825)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE (MG/L AS HCO3) (00440)
				GARRETT COUNTY, MARYLAND						
DE 25 731437	78-07-20	10	36	0	--	8.7	3.5	40	2.0	84
DF 1 731651	78-06-14	130	1000	1000	--	290	74	11	3.8	13
EA 42 73 392	78-07-13	5	54	0	--	14	4.7	3.5	1.2	68
EA 50 73 861	78-07-20	7	58	0	--	14	5.7	18	1.9	110
EA 59 73 108	78-07-13	1	20	9	--	5.0	1.8	5.4	1.2	13
EB 59 73 406	78-07-20	4	29	10	--	7.9	2.2	2.0	1.5	23
EB 72	78-08-09	5	11	9	--	2.6	1.2	.8	1.0	3
EC 1 70GAP5	78-07-27	3	71	6	--	25	2.1	1.1	.6	79
EC 15 73 390	78-07-27	7	160	17	--	48	8.8	.6	2.3	170
ED 5 73 17	78-07-27	8	190	24	--	59	10	.5	2.1	200
FA 20 73 291	78-08-03	5	12	3	--	3.3	.8	.3	.5	10
FA 23 72 6	78-07-13	5	50	0	--	11	5.5	5.1	.9	65
				KENT COUNTY						
AC 20 730658	77-12-02	460	440	390	--	97	48	380	15	66
CB 36 730660	78-04-18	40	20	0	--	6.0	1.3	88	14	140
	78-04-20	30	--	--	--	6.0	--	50	2.9	83
	78-04-25	30	--	--	--	120	--	310	17	5
	78-04-26	50	--	--	--	8.0	--	14	4.5	50
				MONTGOMERY COUNTY						
CC 31 730502	78-07-12	0	7	0	--	.7	1.3	1.7	.3	12
DB 26 049669	78-07-12	0	93	0	--	28	5.6	5.8	.5	120
DB 68 731869	78-07-13	0	110	0	--	34	6.8	6.3	.6	150
				PRINCE GEORGES COUNTY						
GE 18 730858	78-05-15	5	150	0	--	35	15	4.9	12	200
				QUEEN ANNES COUNTY						
FC 8 732193	78-08-01	2	89	0	--	20	9.6	32	12	190

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MULTIPLE STATION LISTING

LOCAL IDENT-I-FIER	DATE OF SAMPLE	ALKA-LINITY (MG/L AS CACO3) (00410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
GARRETT COUNTY, MARYLAND										
DE 25 731437	78-07-20	69	50	3.5	.1	9.6	169	159	--	.59
DF 1 731651	78-06-14	11	990	8.5	.0	5.9	1780	1450	--	1.8
EA 42 73 392	78-07-13	56	6.0	.3	.1	16	91	80	--	.00
EA 50 73 861	78-07-20	90	15	.7	.1	14	127	124	--	.00
EA 59 73 108	78-07-13	11	6.7	8.7	.0	6.4	66	42	--	1.6
EB 59 73 406	78-07-20	19	6.5	3.7	.0	8.4	57	44	--	1.7
EB 72	78-08-09	2	6.3	2.5	.0	4.2	32	20	--	.42
EC 1 70GAP5	78-07-27	65	2.5	1.1	.0	7.3	85	79	--	.45
EC 15 73 390	78-07-27	140	11	1.6	.2	6.6	176	163	--	.64
ED 5 73 17	78-07-27	160	18	1.9	.2	.1	208	191	--	.04
FA 20 73 291	78-08-03	8	1.5	.1	.0	4.6	25	17	--	.74
FA 23 72 6	78-07-13	53	4.3	.3	.1	23	88	83	--	.00
KENT COUNTY										
AC 20 730658	77-12-02	54	5.9	1000	.1	9.6	1800	1670	--	.00
CB 36 730660	78-04-18	110	66	46	.4	4.6	462	296	--	.06
	78-04-20	68	19	32	.2	7.2	168	--	57	.01
	78-04-25	4	27	950	.1	8.2	1790	--	73	.00
	78-04-26	41	21	6.4	.2	7.5	94	--	49	.00
MONTGOMERY COUNTY										
CC 31 730502	78-07-12	10	.8	3.2	.0	6.5	26	21	--	.09
DB 26 049669	78-07-12	98	2.3	3.3	.1	23	144	128	--	1.3
DB 68 731869	78-07-13	120	2.3	3.3	.0	21	164	148	--	.86
PRINCE GEORGES COUNTY										
GE 18 730858	78-05-15	160	12	.9	.3	13	184	192	--	.02
QUEEN ANNES COUNTY										
FC 8 732193	78-08-01	160	2.6	1.6	1.0	13	192	186	--	.00

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MULTIPLE STATION LISTING

LOCAL IDENTIFIER	DATE OF SAMPLE	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)
GARRETT COUNTY, MARYLAND										
DE 25 731437	78-07-20	.02	--	--	--	--	--	40	60	--
DF 1 731651	78-06-14	.03	--	--	--	--	--	51000	57000	--
EA 42 73 392	78-07-13	.06	--	--	--	--	--	640	600	--
EA 50 73 861	78-07-20	.01	--	--	--	--	--	460	800	--
EA 59 73 108	78-07-13	.00	--	--	--	--	--	60	0	--
EB 59 73 406	78-07-20	.01	--	--	--	--	--	50	50	--
EB 72	78-08-09	.00	--	--	--	--	--	20	30	--
EC 1 70GAP5	78-07-27	.01	--	--	--	--	--	50	0	--
EC 15 73 390	78-07-27	.00	--	--	--	--	--	300	260	--
ED 5 73 17	78-07-27	.00	--	--	--	--	--	120	90	--
FA 20 73 291	78-08-03	.00	--	--	--	--	--	80	520	--
FA 23 72 6	78-07-13	.01	--	--	--	--	--	1000	890	--
KENT COUNTY										
AC 20 730658	77-12-02	.06	--	--	--	--	--	73000	80000	--
CB 36 730660	78-04-18	.22	--	--	--	--	--	8100	140	--
	78-04-20	.04	270	60	3	10	3	1600	--	18
	78-04-25	.01	420	60	0	10	7	63000	--	8
	78-04-26	.12	30	30	1	<10	5	9100	--	13
MONTGOMERY COUNTY										
CC 31 730502	78-07-12	.00	--	--	--	--	--	870	880	--
DB 26 049669	78-07-12	.09	--	--	--	--	--	20	10	--
DB 68 731869	78-07-13	.05	--	--	--	--	--	200	50	--
PRINCE GEORGES COUNTY										
GE 18 730858	78-05-15	.01	--	--	--	--	--	400	220	--
QUEEN ANNES COUNTY										
FC 8 732193	78-08-01	.01	--	--	--	--	--	270	210	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

MULTIPLE STATION LISTING

LOCAL IDENT-I-FIER	DATE OF SAMPLE	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)
GARRETT COUNTY, MARYLAND					
DE 25 731437	78-07-20	0	0	--	--
DF 1 731651	78-06-14	1200	130	--	--
EA 42 73 392	78-07-13	150	150	--	--
EA 50 73 861	78-07-20	90	60	--	--
EA 59 73 108	78-07-13	80	60	--	--
EB 59 73 406	78-07-20	10	10	--	--
EB 72	78-08-09	40	40	--	--
EC 1 70GAP5	78-07-27	0	0	--	--
EC 15 73 390	78-07-27	60	10	--	--
ED 5 73 17	78-07-27	50	50	--	--
FA 20 73 291	78-08-03	10	0	--	--
FA 23 72 6	78-07-13	290	290	--	--
KENT COUNTY					
AC 20 730658	77-12-02	2800	3200	--	--
CB 36 730660	78-04-18	70	50	--	--
	78-04-20	200	200	0	820
	78-04-25	2900	3200	0	4800
	78-04-26	230	230	0	690
MONTGOMERY COUNTY					
CC 31 730502	78-07-12	80	70	--	--
DB 26 049669	78-07-12	10	0	--	--
DB 68 731869	78-07-13	10	10	--	--
PRINCE GEORGES COUNTY					
GE 18 730858	78-05-15	10	0	--	--
QUEEN ANNES COUNTY					
FC 8 732193	78-08-01	0	0	--	--

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APPENDIX

LIST OF REVISED QUALITY OF WATER PARAMETER CODES

```
            NUMERIC LISTING

PARM.       NEW TERMINOLOGY -- FIRST LINE
CODE        OLD TERMINOLOGY -- SECOND LINE
-----  ----------------------------------------

00623  NITROGEN, AMMONIA PLUS ORGANIC, DISSOLVED (MG/L AS N)
00623  NITROGEN, KJELDAHL, DISSOLVED (MG/L AS N)

00624  NITROGEN, AMMONIA PLUS ORGANIC, SUSPENDED TOTAL (MG/L AS N)
00624  NITROGEN, KJELDAHL, SUSPENDED (MG/L AS N)

00625  NITROGEN, AMMONIA PLUS ORGANIC, TOTAL (MG/L AS N)
00625  NITROGEN, KJELDAHL, TOTAL (MG/L AS N)

00626  NITROGEN, AMMONIA PLUS ORGANIC,
         TOTAL IN BOTTOM MATERIAL, DRY WT (MG/KG AS N)
00626  NITROGEN, KJELDAHL, TOTAL IN BOTTOM MATERIAL, DRY WT (MG/KG AS N)

00683  CARBON, ORGANIC, SUSPENDED TOTAL (MG/L AS C)
00683  CARBON, ORGANIC, SUSPENDED (MG/L AS C)

00688  CARBON, INORGANIC, SUSPENDED TOTAL (MG/L AS C)
00688  CARBON, INORGANIC, SUSPENDED (MG/L AS C)

00689  CARBON, ORGANIC, SUSPENDED TOTAL (MG/L AS C)
00689  CARBON, ORGANIC, SUSPENDED (MG/L AS C)

00694  CARBON, INORGANIC PLUS ORGANIC, SUSPENDED TOTAL (MG/L AS C)
00694  CARBON, INORGANIC PLUS ORGANIC, SUSWENDED (MG/L AS C)

00916  CALCIUM, TOTAL RECOVERABLE (MG/L AS CA)
00916  CALCIUM, TOTAL (MG/L AS CA)

00926  MAGNESIUM, SUSPENDED RECOVERABLE (MG/L AS MG)
00926  MAGNESIUM, SUSPENDED (MG/L AS MG)

00927  MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)
00927  MAGNESIUM, TOTAL (MG/L AS MG)

01001  ARSENIC, SUSPENDED TOTAL (UG/L AS AS)
01001  ARSENIC, SUSPENDED (UG/L AS AS)

01006  BARIUM, SUSPENDED RECOVERABLE (UG/L AS BA)
01006  BARIUM, SUSPENDED (UG/L AS BA)

01007  BARIUM, TOTAL RECOVERABLE (UG/L AS BA)
01007  BARIUM, TOTAL (UG/L AS BA)

01008  BARIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS BA)
01008  BARIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS BA)

01011  BERYLLIUM, SUSPENDED RECOVERABLE (UG/L AS BE)
01011  BERYLLIUM, SUSPENDED (UG/L AS BE)

01012  BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)
01012  BERYLLIUM, TOTAL (UG/L AS BE)

01013  BERYLLIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS BE)
01013  BERYLLIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS BE)


01016  BISMUTH, SUSPENDED TOTAL (UG/L AS BI)
01016  BISMUTH, SUSPENDED (UG/L AS BI)

01021  BORON, SUSPENDED RECOVERABLE (UG/L AS B)
01021  BORON, SUSPENDED (UG/L AS B)

01022  BORON, TOTAL RECOVERABLE (UG/L AS B)
01022  BORON, TOTAL (UG/L AS B)

01023  BORON, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS B)
01023  BORON, TOTAL IN BOTTOM MATERIAL (UG/G AS B)

01026  CADMIUM, SUSPENDED RECOVERABLE (UG/L AS CD)
01026  CADMIUM, SUSPENDED (UG/L AS CD)

01027  CADMIUM, TOTAL RECOVERABLE (UG/L AS CD)
01027  CADMIUM, TOTAL (UG/L AS CD)

01028  CADMIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS CD)
01028  CADMIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS CD)

01029  CHROMIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS CR)
01029  CHROMIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS CR)

01031  CHROMIUM, SUSPENDED RECOVERABLE (UG/L AS CR)
01031  CHROMIUM, SUSPENDED (UG/L AS CR)

01034  CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
01034  CHROMIUM, TOTAL (UG/L AS CR)
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LIST OF REVISED QUALITY OF WATER PARAMETER CODES--Continued

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PARM.      NEW TERMINOLOGY -- FIRST LINE
CODE       OLD TERMINOLOGY -- SECOND LINE
-----  ----------------------------------------
01036  COBALT, SUSPENDED RECOVERABLE (UG/L AS CO)
01036  COBALT, SUSPENDED (UG/L AS CO)

01037  COBALT, TOTAL RECOVERABLE (UG/L AS CO)
01037  COBALT, TOTAL (UG/L AS CO)

01038  COBALT, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS CO)
01038  COBALT, TOTAL IN BOTTOM MATERIAL (UG/G AS CO)

01041  COPPER, SUSPENDED RECOVERABLE (UG/L AS CU)
01041  COPPER, SUSPENDED (UG/L AS CU)

01042  COPPER, TOTAL RECOVERABLE (UG/L AS CU)
01042  COPPER, TOTAL (UG/L AS CU)

01043  COPPER, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS CU)
01043  COPPER, TOTAL IN BOTTOM MATERIAL (UG/G AS CU)

01044  IRON, SUSPENDED RECOVERABLE (UG/L AS FE)
01044  IRON, SUSPENDED (UG/L AS FE)

01045  IRON, TOTAL RECOVERABLE (UG/L AS FE)
01045  IRON, TOTAL (UG/L AS FE)

01050  LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)
01050  LEAD, SUSPENDED (UG/L AS PB)

01051  LEAD, TOTAL RECOVERABLE (UG/L AS PB)
01051  LEAD, TOTAL (UG/L AS PB)

01052  LEAD, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS PB)
01052  LEAD, TOTAL IN BOTTOM MATERIAL (UG/G AS PB)

01053  MANGANESE, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS MN)
01053  MANGANESE, TOTAL IN BOTTOM MATERIAL (UG/G AS MN)

01054  MANGANESE, SUSPENDED RECOVERABLE (UG/L AS MN)
01054  MANGANESE, SUSPENDED (UG/L AS MN)

01055  MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
01055  MANGANESE, TOTAL (UG/L AS MN)

01061  MOLYBDENUM, SUSPENDED RECOVERABLE (UG/L AS MO)
01061  MOLYBDENUM, SUSPENDED (UG/L AS MO)

01062  MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)
01062  MOLYBDENUM, TOTAL (UG/L AS MO)

01063  MOLYBDENUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS MO)
01063  MOLYBDENUM, TOTAL IN BOTTOM MATERIAL (UG/G AS MO)

01066  NICKEL, SUSPENDED RECOVERABLE (UG/L AS NI)
01066  NICKEL, SUSPENDED (UG/L AS NI)

01067  NICKEL, TOTAL RECOVERABLE (UG/L AS NI)
01067  NICKEL, TOTAL (UG/L AS NI)

01068  NICKEL, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS NI)
01068  NICKEL, TOTAL IN BOTTOM MATERIAL (UG/G AS NI)

01076  SILVER, SUSPENDED RECOVERABLE (UG/L AS AG)
01076  SILVER, SUSPENDED (UG/L AS AG)

01077  SILVER, TOTAL RECOVERABLE (UG/L AS AG)
01077  SILVER, TOTAL (UG/L AS AG)

01078  SILVER, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS AG)
01078  SILVER, TOTAL IN BOTTOM MATERIAL (UG/G AS AG)

01081  STRONTIUM, SUSPENDED RECOVERABLE (UG/L AS SR)
01081  STRONTIUM, SUSPENDED (UG/L AS SR)

01082  STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR)
01082  STRONTIUM, TOTAL (UG/L AS SR)

01083  STRONTIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS SR)
01083  STRONTIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS SR)

01086  VANADIUM, SUSPENDED TOTAL (UG/L AS V)
01086  VANADIUM, SUSPENDED (UG/L AS V)

01091  ZINC, SUSPENDED RECOVERABLE (UG/L AS ZN)
01091  ZINC, SUSPENDED (UG/L AS ZN)
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LIST OF REVISED QUALITY OF WATER PARAMETER CODES--Continued

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PARM.      NEW TERMINOLOGY -- FIRST LINE
CODE       OLD TERMINOLOGY -- SECOND LINE
-----  ---------------------------------------------

01092  ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
01092  ZINC, TOTAL (UG/L AS ZN)

01093  ZINC, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS ZN)
01093  ZINC, TOTAL IN BOTTOM MATERIAL (UG/G AS ZN)

01096  ANTIMONY, SUSPENDED TOTAL (UG/L AS SB)
01096  ANTIMONY, SUSPENDED (UG/L AS SB)

01101  TIN, SUSPENDED RECOVERABLE (UG/L AS SN)
01101  TIN, SUSPENDED (UG/L AS SN)

01102  TIN, TOTAL RECOVERABLE (UG/L AS SN)
01102  TIN, TOTAL (UG/L AS SN)

01105  ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)
01105  ALUMINUM, TOTAL (UG/L AS AL)

01107  ALUMINUM, SUSPENDED RECOVERABLE (UG/L AS AL)
01107  ALUMINUM, SUSPENDED (UG/L AS AL)

01108  ALUMINUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS AL)
01108  ALUMINUM, TOTAL IN BOTTOM MATERIAL (UG/G AS AL)

01116  CESIUM, SUSPENDED TOTAL (UG/L AS CS)
01116  CESIUM, SUSPENDED (UG/L AS CS)

01121  GALLIUM, SUSPENDED TOTAL (UG/L AS GA)
01121  GALLIUM, SUSPENDED (UG/L AS GA)

01126  GERMANIUM, SUSPENDED TOTAL (UG/L AS GE)
01126  GERMANIUM, SUSPENDED (UG/L AS GE)

01131  LITHIUM, SUSPENDED RECOVERABLE (UG/L AS LI)
01131  LITHIUM, SUSPENDED (UG/L AS LI)

01132  LITHIUM, TOTAL RECOVERABLE (UG/L AS LI)
01132  LITHIUM, TOTAL (UG/L AS LI)

01136  RUBIDIUM, SUSPENDED TOTAL (UG/L AS RB)
01136  RUBIDIUM, SUSPENDED (UG/L AS RB)

01146  SELENIUM, SUSPENDED TOTAL (UG/L AS SE)
01146  SELENIUM, SUSPENDED (UG/L AS SE)

01151  TITANIUM, SUSPENDED TOTAL (UG/L AS TI)
01151  TITANIUM, SUSPENDED (UG/L AS TI)

01161  ZIRCONIUM, SUSPENDED TOTAL (UG/L AS ZR)
01161  ZIRCONIUM, SUSPENDED (UG/L AS ZR)

01170  IRON, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS FE)
01170  IRON, TOTAL IN BOTTOM MATERIAL (UG/G AS FE)

01505  ALPHA, SUSPENDED TOTAL (PCI/L)
01505  ALPHA, SUSPENDED (PCI/L)

01506  ALPHA, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
01506  ALPHA, SUSPENDED, COUNTING ERROR (PCI/L)

01516  GROSS ALPHA RADIOACTIVITY, SUSPENDED TOTAL
          (PCI/L AS U NATURAL)
01516  GROSS ALPHA RADIOACTIVITY, SUSPENDED
          (PCI/L AS U NATURAL)

01517  GROSS ALPHA RADIOACTIVITY, SUSPENDED TOTAL
          (PCI/G AS U NATURAL)
01517  GROSS ALPHA RADIOACTIVITY, SUSPENDED
          (PCI/G AS U NATURAL)

01518  GROSS ALPHA RADIOACTIVITY, SUSPENDED TOTAL
          (UG/G AS U NATURAL)
01518  GROSS ALPHA RADIOACTIVITY, SUSPENDED
          (UG/G AS U NATURAL)

03505  BETA, SUSPENDED TOTAL (PCI/L)
03505  BETA, SUSPENDED (PCI/L)

03506  BETA, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
03506  BETA, SUSPENDED, COUNTING ERROR (PCI/L)

03516  GROSS BETA RADIOACTIVITY, SUSPENDED TOTAL
          (PCI/L AS CS-137)
03516  GROSS BETA RADIOACTIVITY, SUSPENDED
          (PCI/L AS CS-137)
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LIST OF REVISED QUALITY OF WATER PARAMETER CODES--Continued

PARM. CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE
03517	GROSS BETA RADIOACTIVITY, SUSPENDED TOTAL (PCI/G AS SR/YT-90)
03517	GROSS BETA RADIOACTIVITY, SUSPENDED (PCI/G AS SR/YT-90)
03518	GROSS BETA RADIOACTIVITY, SUSPENDED TOTAL (PCI/G AS CS-137)
03518	GROSS BETA RADIOACTIVITY, SUSPENDED (PCI/G AS CS-137)
07010	TRITIUM, SUSPENDED TOTAL (PCI/L)
07010	TRITIUM, SUSPENDED (PCI/L)
07011	TRITIUM, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07011	TRITIUM, SUSPENDED, COUNTING ERROR (PCI/L)
07014	TRITIUM, SUSPENDED TOTAL, COUNTING ERROR (TRITIUM UNITS)
07014	TRITIUM, SUSPENDED, COUNTING ERROR (TRITIUM UNITS)
07016	TRITIUM, SUSPENDED TOTAL (TRITIUM UNITS)
07016	TRITIUM, SUSPENDED (TRITIUM UNITS)
07052	CALCIUM 45, SUSPENDED TOTAL (PCI/L)
07052	CALCIUM 45, SUSPENDED (PCI/L)
07053	CALCIUM 45, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07053	CALCIUM 45, SUSPENDED, COUNTING ERROR (PCI/L)
07062	IRON 59, SUSPENDED TOTAL (PCI/L)
07062	IRON 59, SUSPENDED (PCI/L)
07063	IRON 59, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07063	IRON 59, SUSPENDED, COUNTING ERROR (PCI/L)
07082	RHODAMINE WT, SUSPENDED TOTAL (UG/L)
07082	RHODAMINE WT, SUSPENDED (UG/L)
07102	SELENIUM 75, SUSPENDED TOTAL (PCI/L)
07102	SELENIUM 75, SUSPENDED (PCI/L)
07103	SELENIUM 75, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07103	SELENIUM 75, SUSPENDED, COUNTING ERROR (PCI/L)
07122	SILVER 110, SUSPENDED TOTAL (PCI/L)
07122	SILVER 110, SUSPENDED (PCI/L)
07123	SILVER 110, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07123	SILVER 110, SUSPENDED, COUNTING ERROR (PCI/L)
07142	SULFUR 35, SUSPENDED TOTAL (PCI/L)
07142	SULFUR 35, SUSPENDED (PCI/L)
07143	SULFUR 35, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07143	SULFUR 35, SUSPENDED, COUNTING ERROR (PCI/L)
09505	RADIUM 226, SUSPENDED TOTAL (PCI/L)
09505	RADIUM 226, SUSPENDED (PCI/L)
13505	STRONTIUM 90, SUSPENDED TOTAL (PCI/L)
13505	STRONTIUM 90, SUSPENDED (PCI/L)
13506	STRONTIUM 90, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
13506	STRONTIUM 90, SUSPENDED, COUNTING ERROR (PCI/L)
22705	URANIUM, NATURAL, SUSPENDED TOTAL (UG/L AS U NATURAL)
22705	URANIUM, NATURAL, SUSPENDED (UG/L AS U NATURAL)
28404	CESIUM 137, SUSPENDED TOTAL (PCI/L)
28404	CESIUM 137, SUSPENDED (PCI/L)
28405	CESIUM 137,SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
28405	CESIUM 137,SUSPENDED, COUNTING ERROR (PCI/L)
28412	CESIUM 134, SUSPENDED TOTAL (PCI/L)
28412	CESIUM 134, SUSPENDED (PCI/L)
28413	CESIUM 134, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
28413	CESIUM 134, SUSPENDED, COUNTING ERROR (PCI/L)
29633	SCANDIUM 46, SUSPENDED TOTAL (PCI/L)
29633	SCANDIUM 46, SUSPENDED (PCI/L)
29634	SCANDIUM 46, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
29634	SCANDIUM 46, SUSPENDED, COUNTING ERROR (PCI/L)

LIST OF REVISED QUALITY OF WATER PARAMETER CODES--Continued

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PARM.       NEW TERMINOLOGY -- FIRST LINE
CODE        OLD TERMINOLOGY -- SECOND LINE
-----  ------------------------------------------------

39332  ALDRIN, SUSPENDED TOTAL (UG/L)
39332  ALDRIN, SUSPENDED (UG/L)

39342  LINDANE, SUSPENDED TOTAL (UG/L)
39342  LINDANE, SUSPENDED (UG/L)

39353  CHLORDANE, SUSPENDED TOTAL (UG/L)
39353  CHLORDANE, SUSPENDED (UG/L)

39362  DDD, SUSPENDED TOTAL (UG/L)
39362  DDD, SUSPENDED (UG/L)

39367  DDE, SUSPENDED TOTAL (UG/L)
39367  DDE, SUSPENDED (UG/L)

39372  DDT, SUSPENDED TOTAL (UG/L)
39372  DDT, SUSPENDED (UG/L)

39382  DIELDRIN, SUSPENDED TOTAL (UG/L)
39382  DIELDRIN, SUSPENDED (UG/L)

39392  ENDRIN, SUSPENDED TOTAL (UG/L)
39392  ENDRIN, SUSPENDED (UG/L)

39402  TOXAPHENE, SUSPENDED TOTAL (UG/L)
39402  TOXAPHENE, SUSPENDED (UG/L)

39412  HEPTACHLOR, SUSPENDED TOTAL (UG/L)
39412  HEPTACHLOR, SUSPENDED (UG/L)

39422  HEPTACHLOR EPOXIDE, SUSPENDED TOTAL (UG/L)
39422  HEPTACHLOR EPOXIDE, SUSPENDED (UG/L)

39432  ISODRIN, SUSPENDED TOTAL (UG/L)
39432  ISODRIN, SUSPENDED (UG/L)

39502  AROCLOR, SUSPENDED TOTAL, 1248 PCB SERIES (UG/L)
39502  AROCLOR, SUSPENDED, 1248 PCB SERIES (UG/L)

39506  AROCLOR, SUSPENDED TOTAL, 1254 PCB SERIES (UG/L)
39506  AROCLOR, SUSPENDED, 1254 PCB SERIES (UG/L)

39510  AROCLOR, SUSPENDED TOTAL, 1260 PCB SERIES (UG/L)
39510  AROCLOR, SUSPENDED, 1260 PCB SERIES (UG/L)

39518  PCB, SUSPENDED TOTAL (UG/L)
39518  PCB, SUSPENDED (UG/L)

39533  MALATHION, SUSPENDED TOTAL (UG/L)
39533  MALATHION, SUSPENDED (UG/L)

39543  PARATHION, SUSPENDED TOTAL (UG/L)
39543  PARATHION, SUSPENDED (UG/L)

39573  DIAZINON, SUSPENDED TOTAL (UG/L)
39573  DIAZINON, SUSPENDED (UG/L)

39603  METHYL PARATHION, SUSPENDED TOTAL (UG/L)
39603  METHYL PARATHION, SUSPENDED (UG/L)

39733  2,4-D, SUSPENDED TOTAL (UG/L)
39733  2,4-D, SUSPENDED (UG/L)

39743  2,4,5-T, SUSPENDED TOTAL (UG/L)
39743  2,4,5-T, SUSPENDED (UG/L)

39757  MIREX, SUSPENDED TOTAL (UG/L)
39757  MIREX, SUSPENDED (UG/L)

39763  SILVEX, SUSPENDED TOTAL (UG/L)
39763  SILVEX, SUSPENDED (UG/L)

70299  SOLIDS, RESIDUE AT 110 DEG. C, SUSPENDED TOTAL (MG/L)
70299  SOLIDS, RESIDUE AT 110 DEG. C, SUSPENDED (MG/L)

71895  MERCURY, SUSPENDED RECOVERABLE (UG/L AS HG)
71895  MERCURY, SUSPENDED (UG/L AS HG)

71900  MERCURY, TOTAL RECOVERABLE (UG/L AS HG)
71900  MERCURY, TOTAL (UG/L AS HG)

71921  MERCURY, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS HG)
71921  MERCURY, TOTAL IN BOTTOM MATERIAL (UG/G AS HG)

80040  GROSS ALPHA RADIOACTIVITY, SUSPENDED TOTAL
         (UG/L AS U NATURAL)
80040  GROSS ALPHA RADIOACTIVITY, SUSPENDED
         (UG/L AS U NATURAL)
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LIST OF REVISED QUALITY OF WATER PARAMETER CODES--Continued

PARM. CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE
80060	GROSS BETA RADIOACTIVITY, SUSPENDED TOTAL (PCI/L AS SR/YT-90)
80060	GROSS BETA RADIOACTIVITY, SUSPENDED (PCI/L AS SR/YT-90)
39332	ALDRIN, SUSPENDED TOTAL (UG/L)
39332	ALDRIN, SUSPENDED (UG/L)
01505	ALPHA, SUSPENDED TOTAL (PCI/L)
01505	ALPHA, SUSPENDED (PCI/L)
01506	ALPHA, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
01506	ALPHA, SUSPENDED, COUNTING ERROR (PCI/L)
01105	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)
01105	ALUMINUM, TOTAL (UG/L AS AL)
01107	ALUMINUM, SUSPENDED RECOVERABLE (UG/L AS AL)
01107	ALUMINUM, SUSPENDED (UG/L AS AL)
01108	ALUMINUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS AL)
01108	ALUMINUM, TOTAL IN BOTTOM MATERIAL (UG/G AS AL)
01096	ANTIMONY, SUSPENDED TOTAL (UG/L AS SB)
01096	ANTIMONY, SUSPENDED (UG/L AS SB)
39502	AROCLOR, SUSPENDED TOTAL, 1248 PCB SERIES (UG/L)
39502	AROCLOR, SUSPENDED, 1248 PCB SERIES (UG/L)
39506	AROCLOR, SUSPENDED TOTAL, 1254 PCB SERIES (UG/L)
39506	AROCLOR, SUSPENDED, 1254 PCB SERIES (UG/L)
39510	AROCLOR, SUSPENDED TOTAL, 1260 PCB SERIES (UG/L)
39510	AROCLOR, SUSPENDED, 1260 PCB SERIES (UG/L)
01001	ARSENIC, SUSPENDED TOTAL (UG/L AS AS)
01001	ARSENIC, SUSPENDED (UG/L AS AS)
01006	BARIUM, SUSPENDED RECOVERABLE (UG/L AS BA)
01006	BARIUM, SUSPENDED (UG/L AS BA)
01007	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)
01007	BARIUM, TOTAL (UG/L AS BA)
01008	BARIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS BA)
01008	BARIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS BA)
01011	BERYLLIUM, SUSPENDED RECOVERABLE (UG/L AS BE)
01011	BERYLLIUM, SUSPENDED (UG/L AS BE)
01012	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)
01012	BERYLLIUM, TOTAL (UG/L AS BE)
01013	BERYLLIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS BE)
01013	BERYLLIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS BE)
03505	BETA, SUSPENDED TOTAL (PCI/L)
03505	BETA, SUSPENDED (PCI/L)
03506	BETA, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
03506	BETA, SUSPENDED, COUNTING ERROR (PCI/L)
01016	BISMUTH, SUSPENDED TOTAL (UG/L AS BI)
01016	BISMUTH, SUSPENDED (UG/L AS BI)
01021	BORON, SUSPENDED RECOVERABLE (UG/L AS B)
01021	BORON, SUSPENDED (UG/L AS B)
01022	BORON, TOTAL RECOVERABLE (UG/L AS B)
01022	BORON, TOTAL (UG/L AS B)
01023	BORON, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS B)
01023	BORON, TOTAL IN BOTTOM MATERIAL (UG/G AS B)
01026	CADMIUM, SUSPENDED RECOVERABLE (UG/L AS CD)
01026	CADMIUM, SUSPENDED (UG/L AS CD)
01027	CADMIUM, TOTAL RECOVERABLE (UG/L AS CD)
01027	CADMIUM, TOTAL (UG/L AS CD)
01028	CADMIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS CD)
01028	CADMIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS CD)
00916	CALCIUM, TOTAL RECOVERABLE (MG/L AS CA)
00916	CALCIUM, TOTAL (MG/L AS CA)
07052	CALCIUM 45, SUSPENDED TOTAL (PCI/L)
07052	CALCIUM 45, SUSPENDED (PCI/L)

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LIST OF REVISED QUALITY OF WATER PARAMETER CODES--Continued

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PARM.      NEW TERMINOLOGY -- FIRST LINE
CODE       OLD TERMINOLOGY -- SECOND LINE
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07053   CALCIUM 45, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07053   CALCIUM 45, SUSPENDED, COUNTING ERROR (PCI/L)

00683   CARBON, ORGANIC, SUSPENDED TOTAL (MG/L AS C)
00683   CARBON, ORGANIC, SUSPENDED (MG/L AS C)

00688   CARBON, INORGANIC, SUSPENDED TOTAL (MG/L AS C)
00688   CARBON, INORGANIC, SUSPENDED (MG/L AS C)

00689   CARBON, ORGANIC, SUSPENDED TOTAL (MG/L AS C)
00689   CARBON, ORGANIC, SUSPENDED (MG/L AS C)

00694   CARBON, INORGANIC PLUS ORGANIC, SUSPENDED TOTAL (MG/L AS C)
00694   CARBON, INORGANIC PLUS ORGANIC, SUSPENDED (MG/L AS C)

01116   CESIUM, SUSPENDED TOTAL (UG/L AS CS)
01116   CESIUM, SUSPENDED (UG/L AS CS)

28404   CESIUM 137, SUSPENDED TOTAL (PCI/L)
28404   CESIUM 137, SUSPENDED (PCI/L)

28405   CESIUM 137,SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
28405   CESIUM 137,SUSPENDED, COUNTING ERROR (PCI/L)

28412   CESIUM 134, SUSPENDED TOTAL (PCI/L)
28412   CESIUM 134, SUSPENDED (PCI/L)

28413   CESIUM 134, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
28413   CESIUM 134, SUSPENDED, COUNTING ERROR (PCI/L)

39353   CHLORDANE, SUSPENDED TOTAL (UG/L)
39353   CHLORDANE, SUSPENDED (UG/L)

01029   CHROMIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS CR)
01029   CHROMIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS CR)

01031   CHROMIUM, SUSPENDED RECOVERABLE (UG/L AS CR)
01031   CHROMIUM, SUSPENDED (UG/L AS CR)

01034   CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
01034   CHROMIUM, TOTAL (UG/L AS CR)

01036   COBALT, SUSPENDED RECOVERABLE (UG/L AS CO)
01036   COBALT, SUSPENDED (UG/L AS CO)

01037   COBALT, TOTAL RECOVERABLE (UG/L AS CO)
01037   COBALT, TOTAL (UG/L AS CO)

01038   COBALT, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS CO)
01038   COBALT, TOTAL IN BOTTOM MATERIAL (UG/G AS CO)

01041   COPPER, SUSPENDED RECOVERABLE (UG/L AS CU)
01041   COPPER, SUSPENDED (UG/L AS CU)

01042   COPPER, TOTAL RECOVERABLE (UG/L AS CU)
01042   COPPER, TOTAL (UG/L AS CU)

01043   COPPER, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS CU)
01043   COPPER, TOTAL IN BOTTOM MATERIAL (UG/G AS CU)

39362   DDD, SUSPENDED TOTAL (UG/L)
39362   DDD, SUSPENDED (UG/L)

39367   DDE, SUSPENDED TOTAL (UG/L)
39367   DDE, SUSPENDED (UG/L)

39372   DDT, SUSPENDED TOTAL (UG/L)
39372   DDT, SUSPENDED (UG/L)

39573   DIAZINON, SUSPENDED TOTAL (UG/L)
39573   DIAZINON, SUSPENDED (UG/L)

39382   DIELDRIN, SUSPENDED TOTAL (UG/L)
39382   DIELDRIN, SUSPENDED (UG/L)

39392   ENDRIN, SUSPENDED TOTAL (UG/L)
39392   ENDRIN, SUSPENDED (UG/L)

01121   GALLIUM, SUSPENDED TOTAL (UG/L AS GA)
01121   GALLIUM, SUSPENDED (UG/L AS GA)

01126   GERMANIUM, SUSPENDED TOTAL (UG/L AS GE)
01126   GERMANIUM, SUSPENDED (UG/L AS GE)
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LIST OF REVISED QUALITY OF WATER PARAMETER CODES--Continued

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PARM.      NEW TERMINOLOGY -- FIRST LINE
CODE       OLD TERMINOLOGY -- SECOND LINE
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01516  GROSS ALPHA RADIOACTIVITY, SUSPENDED TOTAL
         (PCI/L AS U NATURAL)
01516  GROSS ALPHA RADIOACTIVITY, SUSPENDED
         (PCI/L AS U NATURAL)

01517  GROSS ALPHA RADIOACTIVITY, SUSPENDED TOTAL
         (PCI/G AS U NATURAL)
01517  GROSS ALPHA RADIOACTIVITY, SUSPENDED
         (PCI/G AS U NATURAL)

01518  GROSS ALPHA RADIOACTIVITY, SUSPENDED TOTAL
         (UG/G AS U NATURAL)
01518  GROSS ALPHA RADIOACTIVITY, SUSPENDED
         (UG/G AS U NATURAL)

80040  GROSS ALPHA RADIOACTIVITY, SUSPENDED TOTAL
         (UG/L AS U NATURAL)
80040  GROSS ALPHA RADIOACTIVITY, SUSPENDED
         (UG/L AS U NATURAL)

80060  GROSS BETA RADIOACTIVITY, SUSPENDED TOTAL
         (PCI/L AS SR/YT-90)
80060  GROSS BETA RADIOACTIVITY, SUSPENDED
         (PCI/L AS SR/YT-90)

03516  GROSS BETA RADIOACTIVITY, SUSPENDED TOTAL
         (PCI/L AS CS-137)
03516  GROSS BETA RADIOACTIVITY, SUSPENDED
         (PCI/L AS CS-137)

03517  GROSS BETA RADIOACTIVITY, SUSPENDED TOTAL
         (PCI/G AS SR/YT-90)
03517  GROSS BETA RADIOACTIVITY, SUSPENDED
         (PCI/G AS SR/YT-90)

03518  GROSS BETA RADIOACTIVITY, SUSPENDED TOTAL
         (PCI/G AS CS-137)
03518  GROSS BETA RADIOACTIVITY, SUSPENDED
         (PCI/G AS CS-137)

39412  HEPTACHLOR, SUSPENDED TOTAL (UG/L)
39412  HEPTACHLOR, SUSPENDED (UG/L)

39422  HEPTACHLOR EPOXIDE, SUSPENDED TOTAL (UG/L)
39422  HEPTACHLOR EPOXIDE, SUSPENDED (UG/L)

01044  IRON, SUSPENDED RECOVERABLE (UG/L AS FE)
01044  IRON, SUSPENDED (UG/L AS FE)

01045  IRON, TOTAL RECOVERABLE (UG/L AS FE)
01045  IRON, TOTAL (UG/L AS FE)

01170  IRON, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS FE)
01170  IRON, TOTAL IN BOTTOM MATERIAL (UG/G AS FE)

07062  IRON 59, SUSPENDED TOTAL (PCI/L)
07062  IRON 59, SUSPENDED (PCI/L)

07063  IRON 59, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07063  IRON 59, SUSPENDED, COUNTING ERROR (PCI/L)

39432  ISODRIN, SUSPENDED TOTAL (UG/L)
39432  ISODRIN, SUSPENDED (UG/L)

01050  LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)
01050  LEAD, SUSPENDED (UG/L AS PB)

01051  LEAD, TOTAL RECOVERABLE (UG/L AS PB)
01051  LEAD, TOTAL (UG/L AS PB)

01052  LEAD, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS PB)
01052  LEAD, TOTAL IN BOTTOM MATERIAL (UG/G AS PB)

39342  LINDANE, SUSPENDED TOTAL (UG/L)
39342  LINDANE, SUSPENDED (UG/L)

01131  LITHIUM, SUSPENDED RECOVERABLE (UG/L AS LI)
01131  LITHIUM, SUSPENDED (UG/L AS LI)

01132  LITHIUM, TOTAL RECOVERABLE (UG/L AS LI)
01132  LITHIUM, TOTAL (UG/L AS LI)

00926  MAGNESIUM, SUSPENDED RECOVERABLE (MG/L AS MG)
00926  MAGNESIUM, SUSPENDED (MG/L AS MG)

00927  MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)
00927  MAGNESIUM, TOTAL (MG/L AS MG)
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LIST OF REVISED QUALITY OF WATER PARAMETER CODES--Continued

PARM. CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE
39533	MALATHION, SUSPENDED TOTAL (UG/L)
39533	MALATHION, SUSPENDED (UG/L)
01053	MANGANESE, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS MN)
01053	MANGANESE, TOTAL IN BOTTOM MATERIAL (UG/G AS MN)
01054	MANGANESE, SUSPENDED RECOVERABLE (UG/L AS MN)
01054	MANGANESE, SUSPENDED (UG/L AS MN)
01055	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
01055	MANGANESE, TOTAL (UG/L AS MN)
71895	MERCURY, SUSPENDED RECOVERABLE (UG/L AS HG)
71895	MERCURY, SUSPENDED (UG/L AS HG)
71900	MERCURY, TOTAL RECOVERABLE (UG/L AS HG)
71900	MERCURY, TOTAL (UG/L AS HG)
71921	MERCURY, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS HG)
71921	MERCURY, TOTAL IN BOTTOM MATERIAL (UG/G AS HG)
39603	METHYL PARATHION, SUSPENDED TOTAL (UG/L)
39603	METHYL PARATHION, SUSPENDED (UG/L)
39757	MIREX, SUSPENDED TOTAL (UG/L)
39757	MIREX, SUSPENDED (UG/L)
01061	MOLYBDENUM, SUSPENDED RECOVERABLE (UG/L AS MO)
01061	MOLYBDENUM, SUSPENDED (UG/L AS MO)
01062	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)
01062	MOLYBDENUM, TOTAL (UG/L AS MO)
01063	MOLYBDENUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS MO)
01063	MOLYBDENUM, TOTAL IN BOTTOM MATERIAL (UG/G AS MO)
01066	NICKEL, SUSPENDED RECOVERABLE (UG/L AS NI)
01066	NICKEL, SUSPENDED (UG/L AS NI)
01067	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)
01067	NICKEL, TOTAL (UG/L AS NI)
01068	NICKEL, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS NI)
01068	NICKEL, TOTAL IN BOTTOM MATERIAL (UG/G AS NI)
00623	NITROGEN, AMMONIA PLUS ORGANIC, DISSOLVED (MG/L AS N)
00623	NITROGEN, KJELDAHL, DISSOLVED (MG/L AS N)
00624	NITROGEN, AMMONIA PLUS ORGANIC, SUSPENDED TOTAL (MG/L AS N)
00624	NITROGEN, KJELDAHL, SUSPENDED (MG/L AS N)
00625	NITROGEN, AMMONIA PLUS ORGANIC, TOTAL (MG/L AS N)
00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)
00626	NITROGEN, AMMONIA PLUS ORGANIC, TOTAL IN BOTTOM MATERIAL, DRY WT (MG/KG AS N)
00626	NITROGEN, KJELDAHL, TOTAL IN BOTTOM MATERIAL, DRY WT (MG/KG AS N)
39543	PARATHION, SUSPENDED TOTAL (UG/L)
39543	PARATHION, SUSPENDED (UG/L)
39518	PCB, SUSPENDED TOTAL (UG/L)
39518	PCB, SUSPENDED (UG/L)
09505	RADIUM 226, SUSPENDED TOTAL (PCI/L)
09505	RADIUM 226, SUSPENDED (PCI/L)
07082	RHODAMINE WT, SUSPENDED TOTAL (UG/L)
07082	RHODAMINE WT, SUSPENDED (UG/L)
01136	RUBIDIUM, SUSPENDED TOTAL (UG/L AS RB)
01136	RUBIDIUM, SUSPENDED (UG/L AS RB)
29633	SCANDIUM 46, SUSPENDED TOTAL (PCI/L)
29633	SCANDIUM 46, SUSPENDED (PCI/L)
29634	SCANDIUM 46, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
29634	SCANDIUM 46, SUSPENDED, COUNTING ERROR (PCI/L)
01146	SELENIUM, SUSPENDED TOTAL (UG/L AS SE)
01146	SELENIUM, SUSPENDED (UG/L AS SE)
07102	SELENIUM 75, SUSPENDED TOTAL (PCI/L)
07102	SELENIUM 75, SUSPENDED (PCI/L)

LIST OF REVISED QUALITY OF WATER PARAMETER CODES--Continued

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PARM.      NEW TERMINOLOGY -- FIRST LINE
CODE       OLD TERMINOLOGY -- SECOND LINE
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07103   SELENIUM 75. SUSPENDED TOTAL. COUNTING ERROR (PCI/L)
07103   SELENIUM 75. SUSPENDED. COUNTING ERROR (PCI/L)

01076   SILVER. SUSPENDED RECOVERABLE (UG/L AS AG)
01076   SILVER. SUSPENDED (UG/L AS AG)

01077   SILVER. TOTAL RECOVERABLE (UG/L AS AG)
01077   SILVER. TOTAL (UG/L AS AG)

01078   SILVER. RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS AG)
01078   SILVER. TOTAL IN BOTTOM MATERIAL (UG/G AS AG)

07122   SILVER 110. SUSPENDED TOTAL (PCI/L)
07122   SILVER 110. SUSPENDED (PCI/L)

07123   SILVER 110. SUSPENDED TOTAL. COUNTING ERROR (PCI/L)
07123   SILVER 110. SUSPENDED. COUNTING ERROR (PCI/L)

39763   SILVEX. SUSPENDED TOTAL (UG/L)
39763   SILVEX. SUSPENDED (UG/L)

70299   SOLIDS. RESIDUE AT 110 DEG. C. SUSPENDED TOTAL (MG/L)
70299   SOLIDS. RESIDUE AT 110 DEG. C. SUSPENDED (MG/L)

01081   STRONTIUM. SUSPENDED RECOVERABLE (UG/L AS SR)
01081   STRONTIUM. SUSPENDED (UG/L AS SR)

01082   STRONTIUM. TOTAL RECOVERABLE (UG/L AS SR)
01082   STRONTIUM. TOTAL (UG/L AS SR)

01083   STRONTIUM. RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS SR)
01083   STRONTIUM. TOTAL IN BOTTOM MATERIAL (UG/G AS SR)

13505   STRONTIUM 90. SUSPENDED TOTAL (PCI/L)
13505   STRONTIUM 90. SUSPENDED (PCI/L)

13506   STRONTIUM 90. SUSPENDED TOTAL. COUNTING ERROR (PCI/L)
13506   STRONTIUM 90. SUSPENDED. COUNTING ERROR (PCI/L)

07142   SULFUR 35. SUSPENDED TOTAL (PCI/L)
07142   SULFUR 35. SUSPENDED (PCI/L)

07143   SULFUR 35. SUSPENDED TOTAL. COUNTING ERROR (PCI/L)
07143   SULFUR 35. SUSPENDED. COUNTING ERROR (PCI/L)

01101   TIN. SUSPENDED RECOVERABLE (UG/L AS SN)
01101   TIN. SUSPENDED (UG/L AS SN)

01102   TIN. TOTAL RECOVERABLE (UG/L AS SN)
01102   TIN. TOTAL (UG/L AS SN)

01151   TITANIUM. SUSPENDED TOTAL (UG/L AS TI)
01151   TITANIUM. SUSPENDED (UG/L AS TI)

39402   TOXAPHENE. SUSPENDED TOTAL (UG/L)
39402   TOXAPHENE. SUSPENDED (UG/L)

07010   TRITIUM. SUSPENDED TOTAL (PCI/L)
07010   TRITIUM. SUSPENDED (PCI/L)

07011   TRITIUM. SUSPENDED TOTAL. COUNTING ERROR (PCI/L)
07011   TRITIUM. SUSPENDED. COUNTING ERROR (PCI/L)

07014   TRITIUM. SUSPENDED TOTAL. COUNTING ERROR (TRITIUM UNITS)
07014   TRITIUM. SUSPENDED. COUNTING ERROR (TRITIUM UNITS)

07016   TRITIUM. SUSPENDED TOTAL (TRITIUM UNITS)
07016   TRITIUM. SUSPENDED (TRITIUM UNITS)

22705   URANIUM. NATURAL. SUSPENDED TOTAL (UG/L AS U NATURAL)
22705   URANIUM. NATURAL. SUSPENDED (UG/L AS U NATURAL)

01086   VANADIUM. SUSPENDED TOTAL (UG/L AS V)
01086   VANADIUM. SUSPENDED (UG/L AS V)

01091   ZINC. SUSPENDED RECOVERABLE (UG/L AS ZN)
01091   ZINC. SUSPENDED (UG/L AS ZN)

01092   ZINC. TOTAL RECOVERABLE (UG/L AS ZN)
01092   ZINC. TOTAL (UG/L AS ZN)

01093   ZINC. RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS ZN)
01093   ZINC. TOTAL IN BOTTOM MATERIAL (UG/G AS ZN)

01161   ZIRCONIUM. SUSPENDED TOTAL (UG/L AS ZR)
01161   ZIRCONIUM. SUSPENDED (UG/L AS ZR)
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LIST OF REVISED QUALITY OF WATER PARAMETER CODES--Continued

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PARM.      NEW TERMINOLOGY -- FIRST LINE
CODE       OLD TERMINOLOGY -- SECOND LINE
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39733  2,4-D, SUSPENDED TOTAL (UG/L)
39733  2,4-D, SUSPENDED (UG/L)

39743  2,4,5-T, SUSPENDED TOTAL (UG/L)
39743  2,4,5-T, SUSPENDED (UG/L)
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October 1, 1978

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
	Length	
inches (in)	$2.54\text{x}10^{1}$	millimeters (mm)
	$2.54\text{x}10^{-2}$	meters (m)
feet (ft)	$3.048\text{x}10^{-1}$	meters (m)
miles (mi)	$1.609\text{x}10^{0}$	kilometers (km)
	Area	
acres	$4.047\text{x}10^{3}$	square meters (m^2)
	$4.047\text{x}10^{-1}$	square hectometers (hm^2)
	$4.047\text{x}10^{-3}$	square kilometers (km^2)
square miles (mi^2)	$2.590\text{x}10^{0}$	square kilometers (km^2)
	Volume	
gallons (gal)	$3.785\text{x}10^{0}$	liters (L)
	$3.785\text{x}10^{0}$	cubic decimeters (dm^3)
	$3.785\text{x}10^{-3}$	cubic meters (m^3)
million gallons	$3.785\text{x}10^{3}$	cubic meters (m^3)
	$3.785\text{x}10^{-3}$	cubic hectometers (hm^3)
cubic feet (ft^3)	$2.832\text{x}10^{1}$	cubic decimeters (dm^3)
	$2.832\text{x}10^{-2}$	cubic meters (m^3)
cfs-days	$2.447\text{x}10^{3}$	cubic meters (m^3)
	$2.447\text{x}10^{-3}$	cubic hectometers (hm^3)
acre-feet (acre-ft)	$1.233\text{x}10^{3}$	cubic meters (m^3)
	$1.233\text{x}10^{-3}$	cubic hectometers (hm^3)
	$1.233\text{x}10^{-6}$	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	$2.832\text{x}10^{1}$	liters per second (L/s)
	$2.832\text{x}10^{1}$	cubic decimeters per second (dm^3/s)
	$2.832\text{x}10^{-2}$	cubic meters per second (m^3/s)
gallons per minute (gal/min)	$6.309\text{x}10^{-2}$	liters per second (L/s)
	$6.309\text{x}10^{-2}$	cubic decimeters per second (dm^3/s)
	$6.309\text{x}10^{-5}$	cubic meters per second (m^3/s)
million gallons per day	$4.381\text{x}10^{1}$	cubic decimeters per second (dm^3/s)
	$4.381\text{x}10^{-2}$	cubic meters per second (m^3/s)
	Mass	
tons (short)	$9.072\text{x}10^{-1}$	megagrams (Mg) or metric tons